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The Seamy Side of Medical Life

Solanine Versus the Bromides

Vaccine and Vaccination

Materia Medica of Active-Principle Therapeutics

The Differential Diagnosis of Indigestion

Postpartum Hemorrhage

Coffee and its Adulterations

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The American Journal of Clinical Medicine

A MONTHLY JOURNAL

I CURACY, DEPENDABILITY AND HONESTY IN EVERY DEPARTMENT OF MEDICINE
AND TO THE SAFEGUARDING OF THE DOCTOR

GENERAL EDITORIAL STAFF:
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BLISHED BY THE AMERICAN JOURNAL OF CLINICAL MEDICINE, Inc.

ND-CLASS MATTER MARCH 31, 1906. AT THE POST OFFICE AT CHICAGO, ILL., UNDER ACT OF MARCH 3, 1879.

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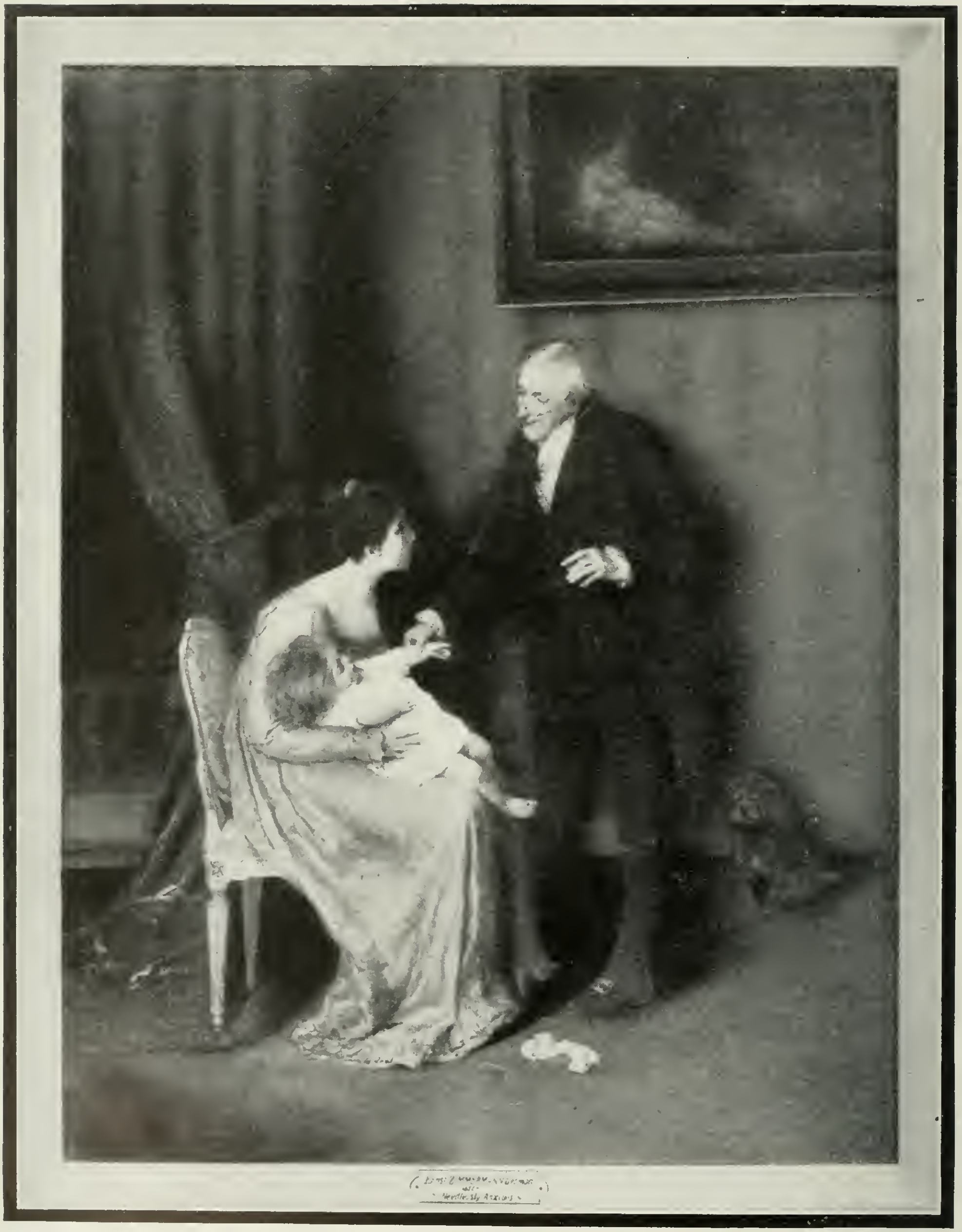

"Needlessly Anxious"

This beautiful picture of a tender-hearted old doctor and his charges, by the celebrated German artist, Ernst Zimmermann, was reproduced especially for The American Journal of Clinical Medicine from the original painting in the Art Institute, Chicago. See the editorial on page 2 for a more complete description of it

The American Journal of
CLINICAL
MEDICINE

Vol. 20 JANUARY, 1913 No. 1

Our Twentieth Volume

A New Year's Word of Greeting

WHEN *in January, 1894, I began the publication of The Alkaloidal Clinic (the old name will ever be dear to me) I had little anticipation of the rapid growth in circulation and influence in store for that little thirty-two page publication.*

Why it pleased my medical colleagues I shall not try to explain, although I think it was because I put my whole heart into it—anyhow it pleased many and has continued to do so ever since. From a mere infant it has grown to be a giant—in size, in circulation, in literary and professional strength, and, best of all, in the affection of its readers, which I prize more than anything else.

Nor has Clinical Medicine stopped growing—nor will it stop! Every year we feel that it is getting better—and we are encouraged in this belief because our readers tell us so. We do not purpose ever to be satisfied with it. Never do we expect to be able to say: "There, it is perfect now." It is our settled policy to be constructively discontented ever and to seek from ourselves and from you new sources of interest, helpfulness and power for its pages.

What Clinical Medicine is we owe largely to you, its readers. We shall owe more to you, and we trust that you will feel there is a debt also on your side—a debt to be paid by helpful suggestions, by promptly paid subscriptions, and by "the good word" wisely spoken to your associates—by good generous "boost" all along the line.

With this thought, this aspiration for better work from all of us, again I wish you A Happy and Prosperous New Year!

WCAbbott

The Drugs We Use

PROFESSOR John Uri Lloyd has made an investigation that demands the consideration of every student of therapeutics and every person interested in the trend of medical thought. He has undertaken to ascertain what are the drugs actually utilized by the practicing physician, and for this purpose he has employed the method of collective investigation. He does not tell us just how he selected his witnesses, but nobody familiar with our friend Lloyd would attribute to him the slightest shadow of trickery.

First he selected a number of non-eclectic physicians, graduates of accredited "regular" schools. From these he secured lists of the drugs they used most freely. The reports were tabulated in an ingenious graphic manner, aided by a simple but effective conch-shell diagram. A study of this table discloses some remarkable and unexpected facts. The drug named by most physicians was echinacea, which received the approval of 148. Next came aconite with 108 votes, then cimicifuga with 96, followed by bryonia, gelsemium, pulsatilla, veratrum, belladonna, and cactus in order as named. In all, 117 plant remedies were listed, while 70 others did not receive a solitary mention. Of these 70 no less than 18 are official, among them being buchu, cinchona, guaiac, jalap, physostigma, senega, stramonium, and ginger. Cinnamon, cubeb, gentian, rhubarb, senna, serpentaria, and taraxacum secured but one vote each.

Evidently this does not represent the preference of the average practician. Some of the old standbys, apparently discarded, are employed only in combinations, others only in the form of their active principles. Opium is not mentioned.

A similar canvass was taken of eclectic physicians. This showed the first five drugs favored to be the same as with the regulars, the order being gelsemium, aconite, bryonia, cimicifuga, and echinacea. Nux vomica and ipecac stood higher than with the regulars. The conclusion voiced by Lloyd is fairly warranted by the evidence: "The practicing physicians of America now freely employ any remedial agent that appeals to them as being useful, regardless either of its origin or the school affiliations of its introducers."

Then the crucial question came up, as to whether these lists could be taken as representative of the body of the profession. Lists were made of all the vegetable drugs utilized by the physician, regular, eclectic, or homeopathic. These were sent to 30,000 practitioners, care being taken to exclude specialists and to select some from every part of the United States. All were graduates of well-established medical colleges. More than 10,000 reports were received from them, and these were tabulated. The results give the best general view as yet afforded of the materia medica actually employed by the average doctor.

The list commences with a genuine surprise: The drug that received the greatest number of votes (6239) was *cactus!* Then followed hydrastis, aconite, gelsemium, and ipecac; then digitalis, ergot and belladonna; then nux and hyoscyamus. Echinacea received 5065 votes. Viburnum prunifolium stood twelfth, thuja fifteenth, opium sixteenth, and cinchona thirty-seventh; while bryonia was eighteenth; lobelia, twenty-first; pulsatilla, twenty-second; apocynum, twenty-third; hamamelis, twenty-seventh; and arnica, thirty-seventh.

Lloyd concludes his comments thus: "The majority of physicians are guided in their uses of remedies by their own judgment, based upon clinical observation and professional necessity. It is evident that physicians in actual practice generally prescribe as they see fit, regardless of whether a drug or a preparation is mentioned in the Pharmacopeia or has been recommended by their therapeutic instructors, or whether it be advocated or not by the leaders now in authoritative positions."

Nobody who has really formed the acquaintance of the American doctor will doubt the entire truth of this proposition. He hears what one has to say, is always ready to give trial to suggestions, but he draws his own conclusions and goes his own way. He is quick to recognize and to discount the element of self-interest and that personal predilection one always feels for the children of his own brain. But if he is any one thing more than all others he is independent.

Take up that element of self-interest: How do the drugs in this investigation stand that have had back of them a commercial push?

Cactus stands at the head of the list, yet it has had more opposition and less advertising than many others. Any advertising enjoyed by echinacea has long since perished, yet it stands eleventh. Viburnum is twelfth, cascara sixteenth, saw palmetto twenty-fourth, hamamelis twenty-sixth, passiflora thirty-second, dioscorea forty-fifth, helonias fifty-seventh, triticum, an old official remedy, seventy-fourth; sarsaparilla, the most persistently advertised of all, is seventy-eighth; aletris sixty-second, avena eighty-fourth, pinus canadensis one hundred fourth, buchu one hundred thirty-fifth, while ginseng is not even mentioned.

It is impossible to see any advertising influence in these figures. Most of the promoting was done in the long distant past, and its influence has ceased. That which continues does not appear to exert any appreciable power, at least over the doctor, however it may affect the laity. These figures bear out our contention that advertising drugs to the medical profession only secures the articles a trial; and the final result must depend upon the real merit of the goods. The doctor is himself the best judge, far better than the druggist who presents the remedy. While the doctor is always willing to try out a new remedy, he judges it finally by his own experience and not by the advertising literature.

A long association with our comrades has taught us to accept their conclusions as phenomena worthy of study. Time and again the writer has put out suggestions that seemed very good to him, but after general trial they have been dropped. In other cases, ideas were submitted that he himself advocated with some doubt, but the great big profession took them up and pushed them far beyond his own expectations—and in all cases the majority proved to be right.

Therefore, when, disregarding the attacks of every variety, including the imputation of interested motives to its advocates and labored demonstrations of its "uselessness," we find more practitioners advocating cactus than any other remedy in the materia medica, we accept their verdict. We know that the great mass of the profession does not make mistakes by wholesale.

OUR FRONTISPIECE

The picture which we present to our readers this month, as a frontispiece, is the reproduction of a painting hanging in the Art Institute of Chicago. It was painted by the distinguished German artist, Ernst Zimmermann, who was born in Munich, April 24, 1852, being the son of Reinhard Sebastian Zimmermann, also well known as a painter.

Ernst Zimmermann received private instruction in art from his father, studied at the Munich Academy, and later at the principal art centers of Europe. He is best known as a genre painter, that is, in most of his canvases he depicts simple human incidents from the lives of every-day people.

In "Needlessly Anxious," the picture which we are showing our readers this month, an old doctor is seen feeling the pulse of a little child who is held in its mother's arms. The mother is looking up anxiously to the doctor, while he smiles back to reassure her. We can see that the child is quite ill, and doubtless the anxious young mother has good reason to feel disturbed, but evidently the good doctor believes the condition is not a serious one and he comforts her by his quiet, kindly manner, like the real doctor he is. The group is a very human one, and the painting is one which attracts many visitors at the Art Institute.

If any of the readers of CLINICAL MEDICINE desire extra copies of this picture in a form suitable for mailing we shall be happy to supply them at five cents each. Only a very limited number is available.

Nothing stays put. The world awakes every day with discarded habits and new ideas and altered outlooks The clock can't tick a round trip without measuring a revolution of some sort somewhere.—Herbert Kaufman.

Even in medicine this is going on every day. Old things are passing. We are but nibbling the edge of opportunity. Bite big and deep, and hang on.—W. C. Abbott.

STOP THOSE TAG-DAYS !

Tag-days are becoming a nuisance. One may have a reasonable objection to this Salvation-Army method of solicitation; he may not like the system of many subjecting their wills to one and he responsible only to himself; he may object to the sending of funds abroad to similar irresponsible control; to the systematized begging; to any other of the many aspects of this work. It is annoying to stop and explain to many fair Salvation lassies who have not the slightest idea of what the objections stand for and see in the refuser only a grouch.

But apart from all this, the "tag-day" custom of sending young girls to accost all sorts and conditions of strange men on the streets and ask them for money is so utterly objectionable that one wonders what the mothers and other matrons, society leaders, directresses of charities are thinking of to allow it. Moreover, it is whispered that members of the demimonde take advantage of the opportunity, impersonate the authorized solicitors and make acquaintances for their own nefarious vocation's furtherance.

It, surely, seems high time to call a halt. The manners if not the morals of young girls are not likely to be enhanced by such performances. Take any hundred men met casually on the street, and estimate the probability that at least one of them is the sort that would take advantage of such addressing to "get fresh"; and even though the lady knows how to repel such insolence, it is not the kind of experience for her to be exposed to it.

Innocence is not always an effective defense against the wiles of the libertine. Familiarity with such encounters takes away the bloom. At the very least, if the girls must do this thing, for pity's sake let every one of them be chaperoned by a husky brother.

It's today that I am livin',
Not a month ago;
Havin', losin', takin', givin',
As time wills it so.
Yesterday a cloud of sorrow
Fell across the way;
It may rain again tomorrow,
It may rain—but say
Ain't it fine today?

VACCINATION AND THE UNREASONERS

The laws of sanitary science have been determined with accuracy, expressed in terms within the comprehension of everybody, and a knowledge of them placed at the disposal of every man, woman, and child in the land. No man gainsays them. Were they put to the actual test universally, there would be no need for a medical profession; yet men eat too much or too fast, drink too much or too little, work too hard, rest too little, and in every conceivable manner violate every last one of these laws; and the medical colleges still send forth an annual crop of graduates who quickly find places and plenty to do.

By a flawless course of reasoning, it has been demonstrated that alcohol is not a necessity to any person in health, and its utility in disease is strongly questioned. No harm would result were its internal administration to stop at once and absolutely; yet men get drunk, and a large proportion of our professional work lies in correcting the evils worked by alcohol.

Venereal diseases would cease completely were people to abstain from illicit sex relations; the most potent source of blindness would be cut off, and the human race be regenerated; but the abdominal surgeons still exercise their arts on the victims of gonorrhea, and the far-reaching effects of the spirochete form the basis of ponderous tomes.

Typhoid fever would cease to exist were every physician to disinfect effectively his patients' alimentary canals and the excreta during the course of this malady; yet it remains the febrile scourge of the world.

For all these and very many other species of unreasoners, we of the medical profession make allowances. Our work is based solely on the results of Unreason, consists in obviating the effects of violations of truths perfectly well known to the world at large, and usually to the law-breakers whose derelictions entail consequences in physical disorders. We should cease to exist as a body were Mankind to do what he knows he should do.

Something of this came to me as I examined the admirable circular of the Illinois State Board of Health upon the subject of smallpox. How graphically it portrays the results of this disease in the unprotected; how completely and irrefragably it proves the efficacy of vaccination; so that no man who is capable of reasoning can fail to be convinced. The document is complete and flawless—so far as it goes. It is one every physician ought to obtain and disseminate it among the laity as far as his influence extends.

The trouble is that this has been done before, time and again, and the antivaccinator still exists—and persists. The untruthfulness of his statements, the fallacies of his argumentation, the blind and mischievous nature of his senseless stand against one of the most essential and best-proved facts in the science of medicine have all been demonstrated repeatedly; and, yet, he remains where he stood at the beginning—unreasonable, unconvinceable, unregardful of the disfigurement and disease and death he scatters among the community.

For all the other unreasoners we provide—the drunkard, the glutton, the venereal, the many varieties of men and women who transgress the laws of hygiene and live unsanitarily, excepting only for the antivaccinator. We show these others why they should avoid the fruitful causes of disease and death, and, finding they pay no attention to our prophecies, we get busy to obviate the effects of their reason. The antivaccinator we leave to go his way.

We can not wash our hands of any of these unreasoners, the antivaccinator any more than the others above mentioned. The consequences of his unreasonable disbelief fall upon the community, and especially upon those for whom the law gives him the guidance—his family. The innocent suffer from his wrongheadedness, and through them the whole community. Even though the disease be confined to the antivaccinators, business suffers when smallpox is reported as prevailing in the place.

If we insist, therefore, upon compulsory vaccination it is not because we dispute the right of every man to think for himself and believe as he pleases. It is rather because we know that the health of the community is of higher importance than the opinions of any one person. When the teaching of science and the collective common sense of the community are agreed that certain measures should be adopted for the welfare of others we may disagree with the mandate of society as much as we please, but it is our duty to submit.

If we violate the laws of the land we may expect punishment. Are not the laws of life itself—of health and its maintenance—of the prevention of disease—as worthy of rigid enforcement?

Not in clanging fights and desperate marches only is heroism to be looked for, but on every railway bridge and fireproof building that is going up today. On freight trains, on the decks of vessels, in cattle yards, on lumber rafts, among the firemen and the policemen, the demand for courage is incessant, and the supply never fails.—William James.

MEDICINE AND THE LAY PRESS

The question of supervising the medical information given out by the lay press has been under agitation for the past few years. *The Medical Times*, with that journalistic genius for which its proprietor and publisher is distinguished, has recently brought the matter to a focus by soliciting expressions of opinion from the editors of some of the leading daily newspapers, with special reference to the desirability of employing medical experts to edit this sort of news. These expressions *The Medical Times* publishes in its November issue, and they make interesting and suggestive reading. The most striking and significant thing about them is the practical unanimity with which they all say, in effect, "Yes, such an editor would be of great value, but is hard to find." In other words, while virtually every one of these newspaper men agree with the *principle* of a medical editor for the daily press, not one of them seems to be particularly enthusiastic over the idea of putting such a plan into *practice*.

What is the reason for this? It is universally agreed (or it is said to be agreed) that the time has come for taking the public into partnership in the truths of medical science. At all events, the public itself feels that it has, and is making its sentiment known in no uncertain fashion. And the profession purports to acknowledge the justice of the public's attitude. It is, further, pretty generally recognized that with the present sporadic, unsatisfactory, even grotesque, character of the medical information now appearing in the newspapers and magazines, the public stands no chance of receiving through the public press any proper enlightenment upon matters pertaining to medical science. Even the lay press itself concedes so much.

Why is it, then, that the matter never seems to get any further? Why are all the offers and suggestions of cooperation made by the medical profession coldly received and responded to with *ifs* and *buts* amounting to a "decline with thanks" on the part of the lay press, which is supposed to be alert to the public demands and eager to comply with them? Must we suppose that the lay press really prefers to publish erroneous and distorted information upon medical topics, or at least is wilfully careless about the character of the news it prints? Hardly, when we consider to what pains and expense that press will go to secure accurate and first-hand information upon all other subjects. Can it be that the lay press has any particular malicious pleasure in misrepresenting medical science and the medical profession? Scarcely, for the press has always been the doctor's best friend, and whatever good understanding exists between the public and the physician, and by the public of his work, is due for the most part to the offices of the lay press. Besides, as I have said, the lay press admits the demoralized condition of its medical news service, and desires its reform, just as earnestly as the profession does, or the public.

What, then, is the hitch? What prevents the profession and the press from getting together and working out this problem, which looks as though it ought to be perfectly simple? I suspect it is the fact that the medical man's idea of what constitutes medical "editing," and the newspaper man's, are two entirely different things; and the newspaper man knows this. The medical profession, while admitting that the public should be made copartners in its truths, insists upon exercising a *didactic* censorship of medical news; the lay press, on the other hand, is well aware that public education does not come about by any such forced campaign, but by a natural, unconscious process of selection of the facts, in which the public is its own best assorter and interpreter, and that what is needed is an *editorial* censorship, i. e., a discrimination of what is interesting, and a reasonable care for its accuracy.

It is often pointed out that the daily newspapers have their expert financial and sporting editors; but it should be remembered that these department editors do not attempt any didactic "education" of their readers in financial and sporting matters; they simply select and present to the public such news in their departments as their editorial judgment finds interesting, and leave the public to learn its own lessons and form its own habits of thought and action.

A medical editor on the public press, if his influence is to be equally broad, would have to be a man in whom the journalistic instinct predominates, following out the same editorial and not paternalistic discrimination—and it is this kind of a medical editor that the big newspaper men declare is so hard to find. Even in medical journalism, with the profession for its reading public, this editorial spirit is wofully lacking. The medical journal, especially the journal of organized medicine, too often assumes the dictatorial, paternalistic attitude, complacently deciding in what subjects its readers shall or shall not be enlightened, instead of frankly and freely laying before them all the salient truths and happenings of medicine, as they transpire, and leaving them to make their own evaluations. And the journal that does fulfil its broad journalistic function is too often regarded with suspicion by the traditional element in the profession.

For my part, I cannot see the necessity, or even the desirability, of the expert medical editor of the lay press being a medical man at all. Recurring to the parallel of the sporting and financial editors, it will be remembered that these men are not sportsmen or financiers. They are journalists trained to cover those fields, which I think is much better. But the important thing is that they are given full and free access to the sporting and financial worlds and their exponents. They have their place in the baseball field and the board of trade. Sporting men and financiers allow themselves to be frankly interviewed. Here, I think, is the crux of the whole situation. The barriers should be swept away and the physician be given all the avenues of approach to the public, and they to him, which are open between the public and every other man. Aside from the personal element, which of course enters into every class of work, the doings of medicine—not only the occasional great achievements, but the day-to-day incidents of medical progress—should be as freely reported, with names and dates and interesting detail, as the current happenings in every other line.

If medicine will let down its traditional bars, which belong to the times when medicine was a medieval priestcraft, and throw open the doors of communication between the profession and the lay press, as in all other departments of life, dismissing its foolish idea that the people are incapable of grasping and evaluating the truths and happenings of medical science, the entire problem will be solved. The press will take ample care of the rest—the providing of expert editors, and the like. And medicine will not thereby be embarrassed, but effectively stimulated and wholesomely corrected.

Indeed, I ardently believe that the noblest and most important function of journalism is fearlessly to condemn what is bad in the attempt to reform it and freely to praise what is good in the effort to encourage it.—Hearst.

This is a sentiment with which we heartily concur. To fight wrong always—and fight it bravely; to help along every good cause—and do it with all our hearts. These are the ideals which we try to keep constantly in mind.

"TAKE AS DIRECTED"

The American Druggist for October records two deaths from errors in dispensing. In one, "lemon salts" was called for, citric acid being the article desired, and oxalic acid, sometimes called salts of lemon, was dispensed. As the package was properly labeled and marked "poison," no blame attaches to the drug clerk.

In the other case the physician ordered two ounces of laxol and the clerk delivered two ounces of lysol instead. This error was furthermore made possible by the very unscientific and unsatisfactory method in which the directions were written, for the doctor ordered that the patient should take the medicine "as directed."

While there seems to be no excuse to be offered for the substitution of the poisonous lysol for the harmless laxol (unless, indeed, the writing was faulty), such a substitution would probably never have occurred had the physician *written* the directions instead of giving them verbally. This practice of giving verbal directions and labeling the prescription "as directed" is a most objectionable one from every point of view. When verbal directions are given, misunderstandings may easily arise and the patient or the nurse may even forget the directions between the time they are received from the physician and the time the remedy is received from the pharmacist. We believe that in every case physicians should write out in full on their prescriptions the directions for use. In this particular instance such a practice would undoubtedly have saved a life.

We have before now called attention to the importance of giving the patient explicit written instructions in regard to the taking of medicine. *The American Druggist* is quite right in demanding that the directions on the prescription should be detailed, and we desire to go one step further and assert that in case the physician dispenses his own medicine, he should likewise write down the manner in which each separate item should be taken. Only in this way can he safeguard the welfare of his patient and also his own interest.

Discussing the same occurrence, *The Midland Druggist and Pharmaceutical Review* touches upon the psychology of the thing, introducing its remarks by showing that the pharmacist who dispenses the wrong medicine, the use of which produces fatal results, suffers untold mental anguish. The editorial goes on to say that, innocent of any intent of wrong-doing, he is subjected to the same legal proceedings as the basest criminal in the land, and since this is the law, he must submit. He must suffer the same unsavory notoriety, the same fierce denouncement for his act, whether it be due to carelessness or to one of those unaccountable and involuntary psychic conditions in which the mind directs the hands to do one thing and occupies itself thereafter with some extraneous subject.

Whatever may be the technical explanation of this condition of mind, one thing is certain: it is not peculiar to pharmacists. It may happen to any person occupied with work which grows monotonous and which may be done mechanically. To the pharmacist, tired out with long hours of the same kind of work, the filling of prescriptions becomes wearisome; to the stenographer the voice of the dictator grows monotonous; to the motorman the conductor's oft-repeated bell fails to make any mental impression; yet the pharmacist goes on filling prescriptions, the stenographer continues writing, and the motorman runs his car unconsciously. Then suddenly the mind is jerked back, as it were, to a realization of surroundings, and the pharmacist is in agony lest he has dispensed the wrong medicine; the stenographer is in a panic, having no recollection of the dictation; the motorman nervously wonders how he managed to bring his car safely through the crowded streets.

The pity of it is that, in case of accident, while the motorman is rarely arraigned as a criminal for his absentmindedness, the pharmacist must always submit to the full process of the law, even if he is later acquitted. There is no more evidence of intent of wrongdoing in the one case than in the other. Nevertheless, the law is necessary. Those who have the people's lives in their charge should feel the burden of responsibility that rests upon them. No such work can safely be done heedlessly or thoughtlessly. The doctor at the bedside has this fact hammered into his heart every day.

I would compromise war. I would compromise glory. I would compromise everything at that point where hate comes it, where love ceases to be love, and life begins its descent into the valley of the shadow of death. But I would not compromise Truth. I would not compromise the right.—Henry Watterson.

THE MATERIAL BASIS OF EMOTION

The long conflict between the spiritist and the materialist seems to have ended in an armed truce, or rather in a resort to that court of final resort, the public, who are now constituted judge and jury. Moreover, the court, being disinterested, requires the parties to submit their evidence, and in each particular case it renders judgment in accordance therewith, without permitting individual cases to become the basis for fundamental law. It is wonderful how the angry passions of the combatants subside when they are called upon for a "show down."

"Show me," says the judge, "I'm from Missouri," and the contender finds that argument is easier than proof. Inference, analogy, ingeniously constructed hypothesis, aerial theorizing, all these are easy and entertaining, but they are not convincing.

It must be said, however, that the materialist has made progress here and there, and in many instances has established at least the probabilities of his contentions where the opinions of his antagonist were formerly accepted unchallenged. The investigations of criminologists have shown that the criminal classes contain many defectives; that their imperfect development has rendered them poorly fit to cope with their honest neighbors in the battle of life; and that if they have fallen into evil ways it is another exemplification of the great law of cause and effect. Indeed, we may base the reasoning in any case upon the rule that back of every phenomenon there is an adequate reason—a cause for every effect.

The study of natural phenomena has removed many facts formerly deemed supernatural from that category, and placed them under that of effects to be expected from comprehended causes. Thunder is no longer referred to the rolling wheels of Jove's chariot, nor the lightning looked upon as bolts hurled by his angry hand. Earthquakes, volcanic eruptions, hurricanes, and pestilences are not now considered evidences of divine wrath, and when some science-belated theolog so designates them he is an object of mirth rather than of argument. Some years ago, when Wisconsin was visited by a destructive storm, a few ministers preached upon it as evidencing the wrath of God, while other divines pronounced it the work of the devil—a difference of opinion among experts that occasioned caustic comment among intelligent but not therefore irreligious persons.

In matters personal, we are learning to associate certain mental and even moral conditions with material causes. The ferocious temper of the man afflicted with a gouty toe had more significance than our grandfathers suspected. The ophthalmologist traces many mental peculiarities of notable persons, even those which have rendered them illustrious, to eyestrain. We accept the pessimism of Carlyle, making due allowance for the veil of autotoxemia through which he looked upon the world. Behind the military genius and the tireless energy of Napoleon we discern the spark of epilepsy, itself due to retention of toxic waste. The blotchy features and the chronic grouch of Samuel Johnson we refer to a sluggish liver. Voltaire first correctly referred melancholy to constipation, which a compatriot of his later traced to fecal decomposition and the formation of mercaptan. Most attentive wives learn to recognize the husband's need of "a pill" when the children or other domestic troubles begin to annoy him.

The writer has frequently referred to the singular fact that cicutine hydrobromide removes the fear of impending insanity. Why should this be? We can only surmise that the specific cause of this morbid emotion is something for which cicutine is a remedy. Since this alkaloid specifically sedates the spinal cord and the sexual function, we may look to irritation somewhere in this tract for the cause of the apprehension. As to the cause of this irritation and the modus operandi of cicutine in relieving it, we must wait a few centuries for the laboratories to catch up with clinical observation.

But is it true that cicutine really has the action just described? Clinical observation has been unmercifully ridiculed and undeservedly. Simple observations are fallacious. Single observers are apt to be hobby ridden. Only by the multiplication of observed cases can we establish a therapeutic canon. Hence, the writer sends this appeal to the many thousands of readers of this journal: Will those of you who may have the opportunity give a trial to cicutine hydrobromide and report your results?

Not all of you—and because there are three types among us. One of these goes to a clinical trial with the unalterable determination to find it a failure; one with such faith in its success that he suppresses or perverts the facts; the third, without favor or prejudice, honestly seeks to find the truth, whatever it may prove to be. It is the latter class from which we ask for testimony.

Is the thing true? How true? How often true? Under what circumstances true? When and why not true?

Edification and wisdom come from the work of the many, combined into a whole.

A retentative memory is a good thing, but the ability to forget is the true token of greatness.—Elbert Hubbard.

EMOTIONS AND HEART THROBS

In connection with the curious tendency of the heart and muscles to betray themselves, some time ago we had our attention called to an article in the *Revue Scientifique* describing an apparatus which was the invention of Professor Mosso, and which consisted of a table on which a man could recline at full length, having an equipoise so delicate that the slightest disturbance of the center of gravity would cause a large indicating needle below to move to one side or the other.

This apparatus was designed to show how the heart and circulation are instantly affected by the mind, and some strange things it brought to light. The slightest emotion would cause the needle to incline toward the head, and it would dart in that direction even when the man on the table was asleep and a noise was made in the room, though not sufficiently loud to awaken him.

Mosso relates the interesting experience of an Italian professor who, reclining at full length upon the test-table, read to himself from two books; the first one of poems written in his own language, and the second, Homer in the original. The needle was passive while he read the Italian verses; but when he came to the harder task of translating Homer it pointed toward his head and remained fixed immovably at that point.

Taken all in all, we are inclined to think that the little force-pump in our chest is about the only truthful organ, and that when novelists speak of a false heart they slander it. As a matter of fact, its delicate throbs are attumed to every hidden thought, and perhaps some day, a genius will devise a form of Mosso's instrument which may be attached to a witness in court and enable justice to dispense with the formality of an oath. Muensterberg and other practical psychologists have shown already the judicial possibilities of instrumental tests of a similar character.

Remember that to change thy mind and follow him that sets thee right is to be none the less the free agent that thou wast before.—Marcus Aurelius.

AN AMERICAN SCHOOL OF SURGEONS

At the last meeting of the Clinical Congress of Surgeons of North America, Dr. Franklin H. Martin, its secretary, recommended the foundation of an American College of Surgeons, similar in purpose to the Royal College of Surgeons in England. This college, he urged, should have the power of granting a degree in surgery supplementary to the degree of doctor of medicine.

This recommendation was approved and a committee of ten eminent surgeons was appointed to formulate a plan for the creation of such a college in cooperation with institutions already established and now conferring the doctor's degree.

It is believed that a special technical school, such as that outlined in brief by Dr. Martin, will decidedly raise the educational status of the budding surgeon of America, who, at the present time too often passes from the door of the medical college to the operating amphitheatre, long before he has had an opportunity to familiarize himself with the scientific principles and technical problems which are of such far-reaching importance in surgical practice. A man qualified by the additional study and experience required to secure the degree of "F. A. C. S." would be far more likely to make a success in this chosen branch and far more likely to reflect honor upon American medicine than would otherwise be the case.

The suggestion is an excellent one and we hope it will be developed. American surgery already occupies an enviable position in the world of medicine, but there is no reason why it should not attain even higher planes.

It matters little where I was born,
  Or if my parents were rich or poor;
Whether they shrank from the cold world's scorn,
  Or walked in the pride of wealth secure;
But whether I live an honest man,
  And hold my integrity firm in my clutch,
I tell you my brother, as plain as I can,
  It matters much.

READ THE ADVERTISEMENTS

Not long ago we sent out a test letter to a large number of subscribers and among other things we asked, "Do you read the advertisements in CLINICAL MEDICINE?" More than 90 percent of those replying said they did, and 88.8 percent stated that their purchases were guided to a considerable extent by what they saw in these pages.

This is as it should be, and this editorial is not for them—the majority—but rather for the other 10 percent who confess they do not read the advertising section.

The first thought of a man who has devised something good is to tell about it. If he knows it is good he is proud of that fact. The thing is the child of his brain. He wants to see it distributed—brought to the attention of possible purchasers, and at a profit to himself, of course.

Unknown, the thing is useless to anybody—dead! Hence, if he is a man of large vision and desirous of seeing his product known beyond his immediate acquaintance, he begins to advertise.

From this time the thing advertised is identified with his name. His honor is bound up in it. If it fails to make good that fact is a reflection upon him and his house. The continued sale of that product depends upon its merit and the maintenance of its quality. The very fact that it is advertised and continues to be advertised is *insurance* to the customer that the product is one that can be depended upon.

Once in a while there comes along a man of unclean reputation or poor judgment who is deluded into the belief that he can "put something over" if he puts money enough into it. He deceives himself. For a while the thing will go, but if it is inherently inferior to other things already on the market, with which the people are familiar, its end is in sight.

The day is past in which unscrupulous men will risk large sums of money in the chance of "trimming" gullible people. The principles of advertising are pretty well instilled into both seller and buyer, who realize that profit comes from the repeat sales, and there will be no repeat sales unless the product is a worthy one that can stand the test and live up to the claims made for it.

Some unwise people, doctors among them I am sorry to say, buy goods—often imitations of advertised goods—whose chief claim for consideration is their cheapness. How foolish. Money is not saved in this way—it is lost. Even if one batch of goods *happens* to be good there is no assurance that the next one will be. One shoddy pair of trousers which wear out in a month; one pair of shoes that rip the first time they are worn; one furnace that refuses to draw—these will more than rob *you* of all the saving to be made on a dozen reliable, honor-made-and-advertised, money-back trousers, shoes and furnaces. And one poor lot of drugs that fail you in a crisis will let more money out of your pocket in a night than you can save in a year.

Buy the goods that have a guarantee behind them. You will find them freely advertised, always. Buy goods with names on—names with which you are familiar; and make it your business to get familiar with these goods, as well as with the claims made for them, by reading the advertisements. Do this every month. Make it a habit. Do it with the purpose of learning something, just as you read the text of the magazine itself.

Get the literature of the thing advertised and read that. You will be perfectly astounded at the amount of knowledge you can add to your store in this way.

If I wanted to understand automobiles, the first thing I should do would be to go over the display advertisements of what seemed to me to be the best machines; then I would send for the makers' catalogs, read them carefully so as to get a grasp of the details, finally comparing the claims made by the different manufacturers, then buy!

If I wanted to learn something about serums, or about rare chemicals, or about new remedies of any kind, I would study the advertisements and literature of the firms making them. Naturally they know more about their products than other people, and it is distinctly to their advantage to point out to their prospective customers, in detail, how they act, why they act, and how to get the best results with them.

The whole history of our wonderful scientific and industrial age is written in the advertising sections of our journals. Think over the great inventions—railroads, telephones, electric lights, trolley cars, the phonograph, automobiles, the synthetic dyes, wireless telegraphy, flying machines, in fact anything that has changed the life of man; just as soon as it had reached the practical point where it could reach out and vitalize the earth it first came into touch with people and commerce through the advertising page.

It was advertising which created the demand for these things, and so made these marvels universal.

Living men *must* read the advertisements. Don't be a cave-dweller.

I am not just sure what the unpardonable sin is, but I believe it is a disposition to evade the payment of small bills.—Elbert Hubbard.

WORK OF THE BUSY QUACK

Every month there seems to be some new development evidencing the ingenuity of the quack. For some time it has been the fake prescription. This epistolary effort starts in a chatty, familiar manner, telling how easy it is to cure some common ailment—one that is sure to pass away of its own accord if not interfered with. All one has to do is to take a gill of syrup, a pint of whisky, a half dram of oil of wintergreen, and—not to forget!—a 50-cent package of cockalorum (which, as you may have guessed, may be had of any druggist or direct from the manufacturer), boil the things together, and, with the courage born of faith, take a tablespoonful whenever that tired feeling gets troublesome or that thirsty sensation pesters. There must be "guys who fall for" this transparent device, or there would not be so many examples of it in the papers.

Before me is a long newspaper cutting, looking quite like regular reading matter, with the usual heavy heading, "Doctors' Mistakes Costly to Patients." It slips into the ordinary testimonial from the grateful patient, and by no means omits the address of the mountebank whose vast experience in diagnosis enables him to save women who had been given up by doctors sundry and several.

"Doctors' mistakes," indeed! Do they ever make such mistakes as to hand over the lives of their dear ones to the mercies of any rascal who can concoct a plausible ad and get a venal paper to print it? Will the people never learn that these men are simply gentry who want to sell something for many times its cost; that the bigger promises they make, the more they sell, and the buyer has no possible redress when he finds himself swindled? How often must they be told of the alcohol and drug habits formed by listening to the sly suggestions of ads specially devised to induce people to buy medicines they do not need? Millions of dollars are yearly lavished on nostrums worse than useless, while the men upon whom people *must* depend where death threatens are left to starve in neglect.

Of all the many words I have written in my messages to my brethren, there is none of deeper moment than that wherein I urged that the community should be educated to realize that it is worth its while to sustain its doctor and enable him to develop to the highest his powers and means for doing good work. The doctor needs an automobile to take him quickly to the suffering; he needs the latest and best means of affording relief and the knowledge of how to use it. No community can afford to keep its doctor too poor to go to postgraduate schools, to secure the best equipment, the latest improvements.

Plant the germ of that thought wherever you can. The seed will not all fall on stony ground, but some will germinate and bring forth fruit.

RACE SUICIDE—THE GOVERNMENT TAKES A HAND

In November, the Post Office Department began a wholesale fight upon various drug firms, physicians, midwives, and others accused of using the mails for criminal purposes. More than two hundred men and women were arrested on the charge of being engaged in the sale or administration of medicines and devices intended to prevent pregnancy or cause abortion. These individuals were located in sixty-nine cities and towns in twenty-nine different states. Thirteen reside in Chicago. Among those arrested were several individuals connected with wholesale and retail drug houses and a number of physicians of fairly good standing and supposed to be engaged in reputable practice. It will be seen that the Government has determined upon exercising the most rigid measures to throttle the growing tendency toward race suicide.

This whole problem was presented some years ago through the columns of CLINICAL MEDICINE. The position of our editorial staff, all of whom are opposed to the traffic in "preventives" as well as to criminal abortion, is already known and we hardly need to reiterate it here, but we feel that we should say again that it is the duty of every physician and every man to yield absolute obedience to the laws of our country. While there may be conditions under the stress of which it may be necessary to destroy the life of the unborn child to save the life of the mother, these conditions are rarely, if ever, so pressing that the physician may not consider them in association with other physicians and be guided in his decisions by the opinions of the majority.

The tendency of human reproduction is downward and the times demand no artificial stimulation of the already shrinking birth-rate. In France they are beginning to realize the national danger in race sterility; in Germany and England the birth-rates are already falling; and in America we know that our old colonial families—our best blood—are dying out from natural causes which need no encouragement.

While the government measures are most drastic, those who will suffer from them, in the main, are persons who deserve little sympathy, because for the most part they are men and women who seek to make money by taking life. On the whole, the government campaign is a good one, and if it is guided by wisdom and common sense in its execution it doubtless will do much good.

The world isn't half so bad as it's painted. There'd be far less suffering and pessimism on earth if we'd set out to find the best in folks half as hard as we search for the worst.—Herbert Kaufmann.

THE ANTISEPTIC DRUGS IN TYPHOID FEVER

In a most excellent paper on the treatment of typhoid fever, Dr. W. F. Milroy (*Western Medical Review* for October, 1912), says that antiseptic therapy has no direct effect upon that disease. Nevertheless it has a value sufficient to warrant its use. Some have ridiculed the idea of the administration of intestinal antiseptics, for the reason that the intestine is not rendered sterile by this means. It has never been claimed that such a result is secured, but it is absolutely certain that the degree of infection can be materially diminished.

Upon the kidneys rests chiefly the duty of eliminating the products of typhoid infection, and the thoroughness with which this is done will largely determine the degree of damage that will be inflicted upon the organism during the course of the disease. Now, one of the principal sources of the toxemia of normal urine is absorption from the intestines. Experimentally, Bouchard and others have greatly diminished the toxicity of normal urine by the administration of intestinal antiseptics.

Since, then, the safety of the typhoid patient depends so largely upon the successful activity of the kidneys and since, further, the burden thrown upon those organs is materially lightened by the use of intestinal antiseptics, these agents clearly ought to be used.

Furthermore, the depraved character of the digestive fluids, the inflamed and ulcerated condition of lymphatic structures along the intestinal tract, the weakened or even paretic state of the musculature of the intestinal walls, and most of all the general toxemia of the patient in typhoid fever, all of these promote fermentative and putrefactive processes in the contents of the intestine. From this condition results gaseous distention, tending to hemorrhage and perforation, diarrhea, interference with the nutrition of the patient, a higher temperature, nervous symptoms, and general distress of the patient.

Intestinal antiseptics indubitably are of great value in guarding against these difficulties. This is a point upon which we have insisted so often that we need to say no more.

Doctor Milroy does not insist upon any particular antiseptic, to the exclusion of all others, having obtained good results with betanaphthol, the sulphocarbolates, saliphen, acetozone, and others, including among them the carbolic-acid and iodine mixture of Roberts Bartholow.

We have frequently observed a very decided improvement in apparently severe cases of typhoid fever after the sulphocarbolates had been administered to effect, and therefore have come to look upon them as our mainstay, not only in typhoid fever, but in all bacterial intestinal conditions. Of course, we do not mean to say that the sulphocarbolates are the only drugs that should be employed here. Undoubtedly others have given equally good results, but we prefer to depend upon one remedy the efficiency of which we have proved, rather than to change indiscriminately from one to the other.

There is no short-cut, no patent tramroad to wisdom. After all the centuries of invention, the soul's path lies through the thorny wilderness which must still be trodden in solitude, with bleeding feet, with sobs for help, as it was trodden by them of old time.—George Eliot.

TREATMENT OF SORE FEET

Captain George H. Richardson, of the medical corps of the National Guard of California, in *The Military Surgeon* for November last relates his experience in the treatment of blisters and abrasions on the feet contracted by soldiers during encampment or maneuvers. The lesions coming under his care varied in character from a slight erythematous roughening of the skin to neglected hyperemic ulcers of several days' duration, and, while many of the blisters had already ruptured, several, varying in size and location, were found filled with the familiar serous exudate.

To begin with, the abraded surface was given a preliminary scrubbing with warm water and soap; but later, in order to see results under conditions simulating those of actual service, simply the official 7-percent tincture of iodine was applied thoroughly, with a camelshair brush or cotton swab over the affected areas, and allowed to dry. If the blisters had not yet ruptured, they were first painted and then incised with a sharp-pointed, sterilized bistoury, care being taken to enter the blister under and beyond its raised surface. After expressing the serum, the incision was given a second coating.

In cases of simple abrasions of the superficial layers of the skin, no dressings, ointments or powders were applied after the iodine treatment, so that the stockings worn came in direct contact with the sores, and the men were told to report the following day. Those who reported invariably were cured. However, when the blisters had broken or ulcers had formed, some sort of protective dressing was found necessary, and for this purpose nothing seemed to surpass zinc-oxide adhesive plaster, properly cut and fitted to the part.

Dr. Richardson says that more than fifty percent of those requesting medical attention among enlisted men and officers complained of trouble with their feet. Anything which will help here will be a godsend.

Leading Articles

The Development of Active-Principle Therapeutics

By J. M. FRENCH, M. D., Milford, Massachusetts

EDITORIAL NOTE.—At the request of Dr. T. D. Crothers, Dean of the College of Physicians and Surgeons of Boston, Dr. French has consented to deliver a course of lectures upon "Active-Principle Therapeutics" to the students of that school. The first of these lectures will be presented early in January—about the time this number of CLINICAL MEDICINE *will reach you. We are glad of the opportunity to present it to you herewith. Other of these lectures will follow in succeeding issues.*

WHEN I was a student in Dartmouth Medical School, one of the professors told us a little story one afternoon, to while away an otherwise dull hour, which made so deep an impression on my mind that I have never forgotten it.

It was the story of a young man who had been suffering for a long time from some obscure disease and was steadily growing worse, while the attending physician gave little hope of his recovery. Finally, as a last resort, and at the request of the patient's father, a consultation was held, six of the ablest physicians in the vicinity being summoned to examine the sick man and consider what could be done for him. The doctors met, and each one made a thorough study of the patient and his symptoms, after which they retired to a private room for consultation. Meanwhile the anxious father, determined to know the opinion of the consultants at first hand, and not as it might be doctored up and given out in the interests of the attending physician, had secreted himself in a closet in the room where the doctors were to meet and listened intently to the discussion which took place.

One by one, beginning with the eldest and coming down to the youngest, as is duly provided by the code of ethics, these wise and scientific men delivered themselves each of his own opinion as to the diagnosis and pathology of this baffling case. and each offered the best explanation he could present of the obscure and unusual symptoms from which the patient was suffering.

The Thing of Most Interest—The Cure

Finally, all the older men having spoken, it came the turn of the youngest and last of the six. "Gentlemen," he began, "we have spent all our time thus far in considering the nature of the disease from which this man is suffering. The thing which interests me most is, *what will cure him.*"

In the closet the listening father in his heart applauded and quickly registered the vow, "*This is the doctor that shall treat my son.*"

So it is that men seek a physician to be cured of their diseases or be relieved of their pains; and he is a poor doctor, from their standpoint at least, who can not grant them the one boon or the other. To the physician the diagnosis is important and the pathology is essential; but to the poor victim and his friends the cure is everything. To the men and women who employ us, who pay our bills and give us a living, we are simply doctors, and not scientific men; curers, and not preventers of disease. From their point of view, the doctor who, when called to attend a sick man, tells him at the outset that his disease is self-limited and must run its course, that it can not be aborted, cut short or modified in any way by medical treatment, is not worthy of the name of physician and has no excuse for pretending to treat the sick.

And, frankly, when you come to think about it, how would you like that kind of a doctor to treat you when you are sick? When that time comes, you will be likely to feel that the real business of a doctor is to cure you; and if he does not know how, then his business is to *find out how*. You will be apt to realize then that the diagnosis and pathology of disease are merely preliminaries to the all-important business of treating, and, if possible, curing the sick person.

My good friend Dean Crothers suggested to me some months ago that he would like to have me give a few talks on some practical subject to the students of this college. When in response I proposed to talk to you about *active-principle medication*—than which I know of no more practical subject in medicine—he expressed a fear lest I might find it difficult to interest you in such a subject.

I confess that I was somewhat surprised at this reply; for I am unable to understand how it could be that you, who have undertaken to fit yourselves to practice medicine, could fail to take a lively interest in the most important part of the curriculum, the treatment of disease. Surely, this can not be the case—it is unthinkable. There are only two explanations of which I can think, and the first is that Dr. Crothers himself is not convinced of the practicability and superiority of the methods which I shall advocate; but from my long acquaintance with him I do not believe that such is the case. There remains only the alternative that the Doctor fears I may not be able to put the matter in such a way as to make it clear, and plain, and attractive to you. Well, *that is up to me—and to you*, to decide.

Active-Principle Medication Not a "New System"

Active-principle medication (which is also known as dosimetry, alkalometry, alkaloidal medication, active-principle therapeutics, and by various other names) is not, and does not claim to be a new system of medicine, but only a new method of employing drugs; and I believe, and shall endeavor to convince you, that it is at once the most potent, the safest, the most convenient, and in every way the most satisfactory—both to patient and physician—of all known ways of using drugs for the cure of the sick.

Active-principle medication stands for therapeutic optimism, as opposed to the prevalent therapeutic nihilism of the day. (It is in no sense a school or a sect, and must not be so understood.) The active-principle physician is a man who believes he *can do things*. He believes that remedial agents, when properly administered, positively *do* exert a favorable influence upon the course and termination of disease-processes. And not only does he hold this as an abstract truth, but he confidently affirms, as to a large class of cases, that he has found the drugs that will do the work, and has learned how and when to administer them so as to obtain the desired result; while, as to the remainder, he is searching diligently for the means required, and confidently looks, day by day, for their discovery.

There has been great progress in all departments of medicine during the last quarter of a century, and not the least in the department of therapeutics. The change has included the forms of the medicines used, the methods in which they are administered, and the indications for which they are employed.

When I began to visit patients with my preceptor, he used to carry a big black trunk filled with nauseous pills and powders and liquid abominations. Today I can carry more kinds of drugs (and do vastly better work for my patients) in a pocket-case of 2-dram vials filled with clean, neat-looking tablets or granules.

My preceptor gave saltpeter and "spirits of niter" to lower the temperature in typhoid fever, with powdered opium to lock up the secretions and relieve the pain, and brandy or whisky to start up the flagging pulse. I, today, go about it in a very different way.

He did not care to begin the treatment until the symptoms were well marked and the diagnosis evident. I want to see my patient at the earliest possible moment, before I or anybody else can tell what is the nature of the fever from which he is suffering.

His endeavor was to conduct the sick man safely through the various phases of the dreaded disease, and save his life by heroic measures, at the last, if necessary. My aim is to save him serious illness, if possible—and, if I can do it without permitting the development of symptoms enough to warrant a definite diagnosis, I am so much the better pleased; and so is the patient.

A Mighty Progress: The Active-Principle Materia Medica

Now, I do not mean to intimate that all the progress in therapeutics has been in the direction of the active principles, for that would be absurd. We have the synthetics, and the animal extracts, and the serums and antitoxins, and physical therapy, and many things equally important; and no one treats diseases as they were treated forty years ago. But it is my desire to interest you in the use of the active principles after the manner of Burggraeve, and Abbott, and their followers.

It was one of your own honored pharmacists, Mr. F. A. Davidson, the president of the Theodore Metcalf Company, who on one occasion said in the local medical society of which I am a member that the alkaloidal granule represented the highest development of the art of the pharmacist. And it was another of the most prominent pharmacists of the country, Mr. J. K. Lilly, of Indianapolis, president of the firm of Eli Lilly & Co., who in a recent article in *The Pharmaceutical Era* upon the development of American pharmacy, after describing some of the improvements which have already been made and still remain to be made in pharmacy and therapeutics, adds:

"We further predict that even more radical changes will occur in the next quarter century; that the progress of the one just closing will be as child's play compared to that which will be experienced between 1912 and 1937. Crude drugs will gradually disappear, to be replaced by active principles, synthetic products, and biologicals. The practice of injecting intramuscularly and intravenously will increase. Punishing the stomach with large, frequent, and nauseous doses is bound to give way where possible to more refined and direct methods. Medicine will become less and less empirical, and more and more rigid demands will be made upon the manufacturer. We are profoundly convinced that these demands will be fully met."

The Development of the New System

Let me now sketch for you in brief outline the development of this new system, which can be traced in three successive steps, the first of which made the system possible, the second making it an accomplished fact, while the third, and last, made it an indispensable necessity to every progressive physician.

The initial step consisted in the discovery of the alkaloids and other active principles of medicinal plants, thereby providing the necessary material.

The first of the alkaloids to be brought to the knowledge of the medical profession was morphine, which was isolated and described by the apothecary Sertuerner, in the year 1816. Within the next sixteen years, strychnine, brucine, quinine, cinchonine, narcotine, codeine, veratrine, coniine (or cicutine), atropine, nicotine, aconitine, and hyoscyamine were discovered by different chemists, so that by the end of the first third of the nineteenth century no less than thirteen alkaloids were known and prescribed by physicians. Since then numerous additions have been made to the list of active principles, which includes, not only the alkaloids proper, but many resins and glucosides, besides some miscellaneous principles, and concentrations sufficiently potent to allow them to be classed either as active principles or with them.

Many of the latter class of remedies were up to a recent date manufactured by B. Keith & Co., of New York, and by Lloyd Brothers, of Cincinnati. They were for a time enthusiastically advocated and largely employed by the eclectics; but most of these socalled resinoids were later discarded by them, as a school, in favor of what are called the "specific medicines," that were first introduced by Dr. Scudder, and afterward manufactured by the Lloyds and by Merrell. At present, along with these active vegetable derivatives —not, indeed, similar to them in derivation, but similar in use—are included a considerable number of the more potent chemical synthetic and inorganic substances, which are largely used by the active-principle therapists.

The Principle of Dosimetry: Minute, Frequent Dosage

The second step in the development of active-principle therapeutics consisted in the establishment of certain general principles governing the use of the active principles as to methods, indications, and dosage, for the purpose of accomplishing certain definite therapeutic results. This revolutionary step was brought about by the master-mind of Burggraeve, of Belgium, who conceived and elaborated the method which he named dosimetry.

Dr. Burggraeve had seen the defects of the old systems of therapeutics, in which the natural drugs were the sole medicinal resources of the doctor. These were administered mostly in their crude form or in the shape of voluminous mixtures, and were inconvenient to carry, unpleasant to take, very uncertain as to action, and decidedly unsatisfactory in their results. From such a combination eventually, and inevitably, there came into being, on the one hand bald therapeutic nihilism and, on the other, blind faith in the various forms of suggestion.

Adolph Burggraeve was born in Ghent, Belgium, in the year 1806. He died in 1902, after nearly a century of life spent in his chosen profession, the later years of his active life having been devoted to the development of the system of therapeutics which is his masterpiece. He became professor of anatomy, and later of clinical surgery, in the University of Ghent; also he was a member of the Royal Academy of Brussels. It was at the latter institution that he conceived and elaborated the system of dosimetric medication—an enduring foundation upon which his fame will ever rest.

The Principles of Dosimetry According to Burggraeve

As stated by Burggraeve, *dosimetric medicine rests essentially upon its power to jugulate those fevers in which all acute maladies have their commencement. Its great end is to prevent anatomic-pathologic lesions, for these once established are above the resources of art.*

The study of morbid causes he declares to be indispensable, since without it medicine is little more than empirical. The dosimetric medicaments are simple, never composite or amalgamated. The "dominant" treatment, as it is known in dosimetric practice, consists in attacking the morbid cause. The variant treatment is applied to those symptoms through which the diseased organism makes known its sufferings.

To acute maladies, dosimetry opposes a sharp and active treatment, while chronic maladies are combated by more deliberate methods of treatment. That is to say, in acute maladies the treatment must proceed as rapidly as the disease, in order to prevent organic disturbances; but in chronic maladies the treatment should proceed slowly, in proportion to the lengthened duration of the disease.

The medicaments most commonly administered are the single, proximate principles, such as the alkaloids, which are given in divided doses, usually in the form of soluble granules.

These are, in substance, the words of Burggraeve himself and may be taken to represent accurately the spirit of dosimetric medicine as understood by its founder. It is worthy of note that he gives the place of first importance to the object to be accomplished, and the second only to the medicaments to be prescribed.

Although Burggraeve was able to show remarkable results in the treatment of disease by his new method, yet he did not succeed in securing its adoption to any considerable extent, until after he had interested Chantaud, a noted pharmacist of Paris, in his undertaking, and formed an alliance with him, according to which the latter thereafter devoted his great skill to the manufacture of the highest grade of alkaloidal granules that had ever been produced, and in this way became the practical coworker with Burggraeve in building up his new therapy. From this time on the dosimetric treatment of Burggraeve spread rapidly, and especially did it begin to flourish in Belgium, France, Spain, Portugal, Italy, Holland, and Denmark.

The next step in the evolution of modern active-principle medication consisted in certain modifications of the original system of dosimetry, and the broadening of its scope and methods, attendant upon its introduction into America.

One of the first men in this country to become interested in the new system was Dr. W. T. Thackeray, who purchased an outfit for the manufacture of alkaloidal granules from Dr. Chartier, of Paris, and endeavored to persuade Messrs. Parke, Davis & Co., in whose employ he was, to engage in the business of manufacturing them. The firm, however, declined to undertake it, considering the commercial difficulties in their introduction too great. Thereupon Dr. Thackeray himself formed a company for the manufacture of the granules, and started and issued a few numbers of a journal, which he called *The Alkaloidal Clinic*, devoted to the advocacy of dosimetric medication. However, he did not succeed in making a success of either branch of the undertaking, and the enterprise soon ended in failure.

Abbott and Waugh Enter the Lists

Not long after this, Dr. Wallace C. Abbott, then a young doctor from Vermont, who had been graduated from the Medical Department of the University of Michigan and located in the suburb of Ravenswood, of Chicago, and who happened to have for some time been interested in the teachings of Burggraeve, began in a small way the manufacture of alkaloidal granules, in order to supply himself and also the friends whom he had interested in this subject; and, in 1894, he began the issue of a new *Alkaloidal Clinic.*

Dr. Abbott was a man of unbounded energy and determination, and his enthusiasm proved contagious and caused the alkaloidal idea to spread rapidly. I myself am one of those whom he interested early; and in my library I have preserved not only the first issue of *The Alkaloidal Clinic*, but nearly every number that has followed. From that time onward, his has been the central figure in the propaganda for active-principle therapy in

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Dr. Alexis Carrel

The Franco-American physician, who is the winner of the $39,000 Nobel Prize in Medicine. Dr. Carrel is distinguished for original research, carried on mainly at the Rockefeller Institute, as a result of which it has been shown to be possible to preserve tissues and organs artificially for future transplantation into the body

America, and his aphorism, "The smallest possible quantity of the best obtainable means for securing a desired therapeutic result," has been the slogan for rallying its forces to the battle.

Soon Dr. Abbott associated with himself Dr. William F. Waugh, an accomplished scholar, a successful physician and medical teacher, and a versatile and forceful writer, and who has since then shared in the work of editing *The Alkaloidal Clinic*—the name of which later was changed to *The American Journal of Clinical Medicine*—as the scope of the work was broadened. These two active and brilliant men were for a time also associated in the manufacture of all the medicaments employed in alkaloidal therapy, so called; a designation, however, which in the course of years grew much broader than the term would indicate, until it has finally come to include many more things. These may best be stated in the lagnuage of Dr. Abbott himself, who very properly may be called the father of American active-principle medication, as Burggraeve was the originator of the earlier form of dosimetry. These are the leading principles governing the newer, more positive, more definite way of combating disease:

The Principles Governing Active-Principle Therapeutics

1. The administration of small doses of the most active and potent known remedies at short intervals, until either remedial effect or signs of drug-sufficiency, i. e., the full physiological effect, are secured.
2. The administration of such doses in the form of soluble granules or tablets each of which contains a definite amount of the drug.
3. The additional use of such solvents, eliminants, vital incitants, and local and systemic antiseptics as have proven of remedial value.
4. The use of any and all remedial agents in the most concentrated form available that will produce definite results in recognized conditions.
5. The avoidance of promiscuous combinations, problematical remedies, crude drugs, and nauseous, changeable alcoholic tinctures and fluid extracts when the active (remedial) principle of the drug can be obtained in its purity and given in effective, well-established doses.

Many other honored names have been associated with those of Abbott and Waugh in the building of active-principle therapy in America—a structure which is still in the process of making. Among them are those of John M. Shaller, the author of the best manual of alkaloidal medication for beginners; E. M. Epstein, who may be termed the scholar of the method; Coleman, the persistent advocate of systemic antisepsis in the prevention and treatment of the contagious fevers; Alfred S. Burdick, the present managing editor of CLINICAL MEDICINE; and George F. Butler, who gave the inspiring address to the preceding class of graduates from this school. Many more names might be mentioned, in fact one hardly knows where to stop.

As to the present status of active-principle medication, it can be said that many thousand physicians are using the methods and medicaments referred to in their daily practice to a greater or less degree, and their number is each year increasing. Enthusiasm and optimism are the characteristics of these men as a class. They claim that they are better physicians because of the teachings of Burggraeve and his successors; that the principles and methods of dosimetry have enabled them to meet disease with greater confidence, and overcome its manifestations with greater certainty, than they were able to do with the old galenic methods.

One of my own most intimate friends, the man through whom I got my first introduction to this newer and better method, assures me that under the uncertainties of the old system of medication he had lost all enthusiasm and nearly all interest in the practice of medicine, and was seriously contemplating changing his occupation, when, thanks to Dr. Abbott and THE ALKALOIDAL CLINIC, he was ushered into a new world in his profession, given a new confidence in his ability to help the suffering, and filled with a new enthusiasm in the practice of medicine. And I can confidently affirm, from my own knowledge of this physician, that this optimism has never left him, but that he is today a broad-minded, well-balanced, optimistic, and successful practitioner, a man who believes in himself and in his power to relieve suffering and to prevent and cure disease—and these are the things which every physician needs to believe and do.

* * *

A Model Medical Refuge

By ROBERT GRAY, M. D., Pichucalco, Chiapas, Mexico

EDITORIAL NOTE.—We have received many requests from readers of CLINICAL MEDICINE *for a picture of Dr. Gray. We have finally prevailed upon the Doctor to send us such pictures, and finally he has yielded to this request. The illustrations of this article will be appreciated by the many thousand physicians who have read his many contributions to this and other journals.*

HEALTH and length of days being the unreached Paradise of man's despair, both of which have been mine in inordinate degree, I unbend my stern personality to unmask some of the little side scenes that hedge about the great subtle mysteries of natural life, to which disease and physical pain are strangers.

I regret that the realistic lessons I have demonstrated to the unfortunate people of this unhappy land must greet my American brothers through the weakening mediums of the camera and the pen, rather than through the visible tangibility that towers around me tonight.

Forty-eight Years of Mexican Practice

I have been living in this fairy land of flowers and fevers for now more than forty-eight years without having had one day of vacation or experiencing a single hour of illness or pain, while all these years rarely passing a day when not exposed to contagion. As many as a hundred sleepless nights in a year have been my experience, and six weeks without going to bed, snatches of sleep, vouchsafed only in rocking-chairs, have been repeated more than once; wet to the skin often more than a week at a time; not seldom riding twenty leagues [60 miles] during the day and night, over a broken, roadless country, with paths winding along the narrow verge of sheer precipices, swollen mountain torrents intervening, through black clouds of mosquitoes, in drenching rain. This is the story of rural tropical practice, in a nutshell; and few are the combinations of flesh and blood long exempt from martyrdom to such ordeal of professional labor of love.

Dr. Robert Gray and his friend, Dr Fernando N Maldenado, with their mozos

Dr. Gray and native employe, Alfredo, in dispensing harness. All one end and most of side of store invisible

The noble native brother, Dr. Fernando N. Maldenado, graduate of the University of Pennsylvania, who is photographed with me just as we roam these torrid wilds on those sure-footed mules, is one of the faithful, self-abnegating medical heroes who respond to the distant call of the lonely plantation or sequestered ranch, often being absent from his interesting family as long as two months at a time; thus meriting admiration I cannot claim, as I have no family nor other endearing tie, being all alone on earth. We never meet save where Hope has fled, as we have just passed a week in what seemed must be the chamber of death, yet we parted today gratified that we left the patient saved. And just as we passed that brightened portal we were photographed, a few minutes later, in the road on the margin of the rubber-land belonging to the doctor, whom I thus introduce to you all as one of our progressive "family," worthy of your appreciative admiration.

Food and Hygiene in the Tropics

My long and arduous experience has taught me that health depends upon water, food, and house influence.

No water in malarial belts, excepting artesian and rain-supplied, is safe for drinking purposes, unless boiled each day or disinfected before drinking; the best disinfectant being a 1 : 2000 copper-arsenite solution. Half a liter of water, contaning this is practically prophylactic against cholera.

Food, in hot malarial belts, should be largely fruit and vegetables, with milk-products—butter, cheese, and clabber milk—eggs, fowl, sheep, game meats, fresh beef; but nothing from the hog, not even lard.

The house and office should be insulated against the heat and be ventilated from above, through wire screening, the latter to prevent the entrance of house-flies and mosquitoes. The doors and windows should be screened, the doors closing by springs and the windows hung on hinges, so that they may be closed when the temperature falls. Ventilation through open spaces just under the ceiling is more desirable than any other in tropical climates.

My house is really a model for tropical residence, being constructed of finest native cedar lumber, and insulated against the sun's rays with "plaster board" overhead—a recent American novelty, that excludes alike heat, cold, and moisture, while neutralizing the terrible penetrating radiation from the sheet-iron roof. The floors are concrete. There is a foot-high screened ventilating space all round the top of the house, just under the ceiling, and also an open space a yard high between the partitions of rooms and the ceiling. Thus, I can sit here through the torrid suffocation of these afternoons practically as comfortable as if it were among the soothing freshness of a June morning in a blue-grass resort of Kentucky.

And as for my garden supplies—they might well be the envy of the kings of the earth, as a picture of my papaya grove would amply attest, where now are hanging hundreds of fruit, many weighing fifteen pounds or more,

The exterior of Dr. Gray's home, with the Doctor and a group of native friends and helpers

and the delicious delicacy of flavor which no watermelon nor canteloup can approach, while lending a digestive property that puts to shame anything that passes over the druggist's counter.

All the year round I have pineapples to rot on the stalk, and cabbage, potatoes, and all the luxuries of your northern market-garden at its best; and, in addition, your dried fruits and apple-butter. When at home, I pass half my time at work in the garden, as a legitimate appetiser, as well as a feature of healthful exercise—not as a work of necessity, as my native boy servant, Alfredo, has learned my gardening art.

I have also inaugurated a system of concrete reservoirs, to store the rain-water from the sheet-iron roofs, for drinking purposes; and these are destined to be of much good service.

For the Sake of Lowly Humanity

What I have done here is what every doctor should do in the hot and sickly belts of the United States, and also teach his people to do the same; for I tell you frankly there is no need of turning up your toes in the long and dreamless sleep while you yet are young men. I think I might have died a thousand times had I shown the white feather in the face of menacing danger. My crowning pride—an honorable one, I believe—is to appear in robust health and to vanquish the angel of death whose sable wing hovers over a desperate patient. Other motive in life I have none, nor have had any time since the battle of Gettysburg.

I have reared the house, built other structures, and made the garden and other improvements as object-lessons to people who were strangers to such conveniences.

I had the money—which some fine day I was destined to leave, with no heir to enjoy it—and resolved to adorn with substantial structures this torrid hamlet, where I have lived and labored so many years, rather than leave the cash subject to the rapacity of the government or its custodian bank or some merchant.

And now, frankly, I am in a quandary about the disposition of the property before I go to the mournful hill. Sometimes I muse over the thought of giving some worthy woman my name, which would make her heir under Mexican law; but there are so many undesirable possibilities inseparable from such contingency that I dismiss the idea with repugnance, as inimical to my anchoritish fame. Then, again, I am inclined to will it to the municipality as a permanent residence for physicians, rent-free; which is more in harmony with my elastic spirit, ever repining over the woes and sufferances of the medical fraternity, which have never been mine.

CLINICAL MEDICINE, and its readers in incredible numbers, has for many years been repeating requests for a contribution such as this, as well as for photographs. But this never before has been possible, for the reason that there was no photographer nearer than sixty miles; and to have him come here to do this work was an expensive luxury. So, now, if the photographs and pen-sketch I now submit do not please the editors and readers, the disappointment will be mutual; for I am not vain about the one or the other, yet have no feasible remedy in my power.

I have haunted the pages of CLINICAL MEDICINE quite enough in past years, and still more recently, with my renegade clinical experience to desist from inflicting that well-thrashed topic in this connection; and I am not likely to be seen thus very often hereafter, though it is possible I may be heard from occasionally.

Hospital Work in Asiatic Turkey

Sketches from the International Hospital

By CYRIL H. HAAS, M. D., Adana, Turkey
Superintendent of the International Hospital

EDITORIAL NOTE.—In the year 1909, the seacoast town of Adana, in Asiatic Turkey, was the scene of a general massacre of native Christians, mainly Armenians, by the terrible Turk. Out of the stress of that time of bloodshed and suffering came the hospital about whose work Dr. Haas tells us something in this article. This story will thrill you—touch your manhood.

THIS poor blind Moslem beggar stood for years on the Adana bridge, begging daily for the paras that kept him alive. During the massacres, being unable to take an active part in the slaughter, he appealed to his friends to help him do his share. A hunted, helpless Armenian was dragged to the spot and held before him, the while with a rusty saw and cruel hand he crudely severed the captive's head from the body. Thus this believer in Islam gained treasure in heaven!

Not in the same way, mayhap, yet with the same spirit, this horrible act was repeated thousands of times in the city of Adana and on the Celician Plain during the month of April of 1908.

Over against such dimness of soul and heartless inhumanity the International Hospital of Adana would take its stand. To do good to those who would do evil; to save life rather than destroy it; to prevent suffering when possible; to relieve it wherever found—under Cross, under Crescent, under whatever banner—these are some of the reaches of its endeavor. This hospital was always a need in Adana.

Dreamed of, from the time of missionary occupation of the city; an object of devoted labor during the twelve years' residence of the Rev. W. N. Chambers, D. D., it was suddenly forced into existence by the fearful ravages attending the massacres just named. During these dark days of unspeakable human butchery, four emergency hospitals were hastily opened, and in them Red Cross nurses and volunteer workers tirelessly spent themselves in relieving pain and suffering.

The Blind Moslem Begger of Adana

How the International Hospital Came to Be

When at last the days of deep stress were over and the immediate needs were met, the workers retired from the city and the hospitals closed—with one exception, and that one made possible by the combined efforts of

Dr. Chambers, Major Dowty-Wylie (English vice consul), and Edward I. Nathan (American vice consul), who were members of the International Relief Committees.

It was the conviction of these men that the succeeding needs of this city of tragedy could be met best by a permanent hospital that would be open to the sick of all races, closed to no creeds, and to be in the highest sense a massacre memorial. Thus the International Hospital had its birth. For three years now its doors have welcomed the sick, reaching, with the added days, extended fields of usefulness. In keeping with the plan of permanency of the Hospital, a call was issued for a foreign physician, and the writer was given the privilege of responding to this call, arriving in Adana in May, 1911.

To a newcomer in a strange land with many languages, knowing none, all was a problem. Adana, devastated in one year by massacre, fire and disease, seemed steeped in despair; the needs of the suffering appeared overwhelming. Those to whom life had been left had all ambition blasted; fear, poverty, disease frowned on them everywhere. Eye diseases were so prevalent as to make the sight of healthy eyes almost an exception; while malaria, with its dreaded complications, was continuing, albeit in more subtle ways, a widespread massacre of its helpless victims.

The building, though not primarily erected for hospital purposes, had been very well adapted to it under the supervision of Dr. Chambers. Wards had been spaced, and private and nurses' rooms provided. During the year the process of hospital organization has been continued and facilities provided for operative work, a sphere in which a properly equipped hospital may render large service.

The existence of cholera in the city seemed to demand, at times, the exclusion of all other patients. Fortunately the epidemic never spread to such a degree, cholera patients always being cared for in a special room on the ground floor. However, the uncertainty involved interfered greatly with the clinics and routine work.

Nine different nationalities were represented in the wards during the hospital year of eight months, but the great majority of these were Armenians, a people who, indeed, live the lives of the hunted. Is there anything more blasting in its effect upon life than the element of fear, which now seems to be the most dominant thing in their living? At one time it is the fear of another massacre, based on rumors that persisted throughout the year—the work of cruel enemies. A shot is heard, and these persecuted Christian people stampede like cattle. At another time it is the fear of dread cholera, and in view of the sanitary condition of the city this fear was not without cause. And so it goes. With much despair in their hearts, little brightness and only few joys, we have come to know them this year. "Why live, when life is so sad? Why toil, only for defeat!" What memories, but of horrible butchery of loved ones? What hopes, but of poverty and loneliness?

The Musselmen Are Gaining Confidence

Of the Moslems received in the hospital, there were more than double the number of those of last year. Of the forty-six, more than half were cared for during the last two months, indicating an increasing confidence on the part of the Turkish population. It often was impressive to see a Moslem walk into the operating theater and submit to anesthesia and a serious operation, at the hands of strange doctors and nurses, without the least indication of distrust or fear. The Hospital is located in the Greek section of the city, and it is most encouraging to note the gradual increase of confidence, on the part of these conservative people, in our purpose to serve all sick who may come to us, regardless of creed or nationality.

The Kurds, alone and far from home, seemed to appreciate most keenly the treatment of their sick. Not infrequently it was found necessary (to the amused interest of all in the ward) for the doctor to speak to a sick Kurd in a very roundabout way: in English to Miss Davies; Miss Davies in Turkish to a Moslem; the latter, in turn, in Kurdish, to the patient. A wonderful method of obtaining exact information, indeed.

There is also a very large increase of Arabic-speaking peoples in Adana, and we find Miss Davies' splendid command of this language most useful in helping these folk.

Of the 309 in-patients, 250 were men, and 59, women and children. There were 88 who came for surgical and 221 for medical treatment. Seventy-five operations were performed on 52 men and 21 women, most of the operations occurring within the last three months. There were no deaths from operations, the mortality among the medical patients being due, usually, to cholera and malignant malaria. There were treated in the polyclinics 5825 patients, receiving in all 10,352 treatments. It is significant that during March, April, and May more than twice the number of new patients were seen as in the previous five months, indicating an increasing reputation and influence of the Hospital.

It is in this service that one is ushered into the dark side of life. After listening several hours daily to stories of wrecked homes, murdered husbands and sons, shattered nerves from fright; of poverty and pain, suffering and sin beyond description, it is then that one longs for measureless resources of power to help and heal.

The Hospital is fortunate in having a staff in keeping with its name, the same embracing no less than six nationalities. In addition to an American physician, these aids are included: Miss Davies, Welsh, head nurse and superintendent of the Hospital; Miss Margaret Johnston, Irish, nurse, who arrived in February; Miss Lydia Talbott, English, nurse, now in England but returning in the autumn for permanent work. Of the native staff, there are Dr. Salibian, an Armenian, and four nurses in training. Added to these, we have in the way of helpers, one cook, one man servant, and two young women. During the coming year the staff will be increased by the addition of a resident pharmacist, one orderly, and a gatekeeper.

It is with the keenest pleasure that one recalls the enthusiasm and earnestness shown by these workers during the past year. With most of the work depressing, much of it loathsome, in addition to the long hours and small pay, the spirit in which they have toiled can be explained only by a constraining love, more than human.

Through the Wards With the Doctor

Entering, at the appointed morning hour, the men's ward, large and roomy, one notes the seventeen beds occupied by brown-faced fellows, looking so typically oriental, with their white head caps and red shoulder capes, set off by the white bed-coverlets embellished with deep-turkey-red borders.

Giragos is seen first—the pet of the ward, the little old man of eight years, aged and wasted. His back is bent and his leg is putrid with tuberculosis. "Why don't you laugh?" From out of the blank and wrinkled face comes the pathetic reason, "Because the laughs don't come." How could they come in a hut-home barren and dark, with no one to care but a nearly blind grandmother! How can they come from a body crooked and racked with pain, a pain without let! Finding many to love him in the hospital, a new world dawns and later the laughs do come, but not health. Two operations already, and not better. Amputation the only hope. To save the little sufferer from such a disgrace, that of losing a limb, his blind granny takes him back to his little hovel of despair and to slow death.

Manassa came to the Hospital exceedingly ill and no time was spent in making the usual financial arrangements. After weeks of careful nursing, he goes out today, fully recovered, but without paying and without thanking. Yes, there are a few such!

Mahmed, who is incurably blind

Hagop's stab wound in the thigh is doing nicely. He got it in a drunken quarrel and is having plenty of time now for thinking all about it; and also of higher things, we hope.

Mahmed, this Moslem, was led to the Hospital by a Turkish woman who found him by the roadside. Both of his eyes are masses of suppuration. Big, strong, robust man that he is, how can I tell him that he shall not see again, as he begs for a word of hope? We must send him out to join that ever growing army of the sightless on this plain whom we meet everywhere and for whom no serious attempt is made that they might be saved from darkness, in body and in soul.

Manook, in the adjoining bed, is convalescing from an operation for hernia. He is given the permission to get up this morning, and forthwith rises on his knees in bed and before all the men, aloud, offers to God a prayer of thanksgiving. It is this same Manook's wife who wanted to be our night nurse "during life and death" if we would only find work for her husband, feed her boy at the Hospital and send her daughter to a boarding school.

Artin is next, quiet and discouraged, in the third stage of pulmonary tuberculosis, and an outcast. No disease is feared more than consumption in this land, and to be in its grip is to be despised and rejected, even by father and mother. As we look down upon this hopeless situation, we dream of that tuberculosis pavilion which some good friend, some day, will make possible in this country of matchless sunshine, and so give to these forsaken sick a new lease on life such as is now coming to those of America and Europe similarly afflicted.

Little Sarkis cured of stone in the bladder

Abdulla, the little Moslem, awaits us with a smile and twinkle in his eyes. Found at the gate some days before, nearly dead with cholera, he is told that he may go now. He asks for the names of nurse and doctor on a card. "What for?" "To wear about my neck and place on the wall of my home in my distant country." The request is laughed off until persistence wins. Going, he seeks to kiss our feet, and from his young lips come most beautiful words of thanks.

In the next bed is Khruder, the large, splendid Kurd, a perfect specimen of manhood, eagerly awaiting his operation. Run over by a cart a month before, a large, sluggish ulcer slow to heal was produced on the leg, and he is most anxious to have the doctor plant new skin on it.

The rest are doing well with their sundry injuries, operations, dysenteries, and malarias; some not so well.

We pass into the corridor to get to the women's ward, when we meet a Greek bearing a gift of sweets and one-day's wage, his first after leaving the Hospital.

In the Women's Ward

In the women's ward we see little Varta with tuberculous limbs, having been brought to the Hospital by a loveless stepmother, who refuses to receive her back. The little waif begs that we may never send her back to the cruel home. In the adjoining bed is an Armenian woman recovering from an operation for an abdominal tumor. She is so thankful that she plans to go out and beg for the poor, thus showing her gratefulness to God. This woman's face shows greater hardship. Her husband and two sons were cut in pieces before her eyes, and she now lives with her two little girls in a small hut, with one mattress as furniture. Working in a cotton factory from daylight to night-light, she must now suffer from the effects of hard labor.

Rebecca, in the opposite bed, has eyes like festering sores. A quack woman, some weeks before, was treating her for trachoma, using filthy instruments. Result, a purulent ophthalmia gone on so long that hope has gone with it. Yet daily we must hear the one cry of her heart, "Is there hope?"

Little black-eyed, brown-faced Sarkis, here, greets us with a hearty laugh this morning. Suffering exquisitely for months with a stone in the bladder, he is now ready, stone in hand, to go home with his mother.

The operations now are begun. Khruder lies like a soldier, refusing anesthesia, while large slices of skin are cut from his upper leg and grafted on the ulcer.

Suddenly the English consul is announced, who wishes to see the doctor immediately. The latter not being able to leave the room, the consul is hastily ushered in, and blurts out the startling question, "Have you heard of another massacre begun? Two Christians killed in a vineyard and people getting panicky." But a baseless rumor it was. . .

In the Free Clinic

The operations of the morning being over, the time before noon is spent in seeing patients waiting in the clinic, below.

The first to confront the doctor is a young man who would be pleased if his mother-in-law could lie upstairs, since he is tired of her presence at home. Rather an ingenious idea on his part; but seeing that she is not very ill we think otherwise.

This widowed mother, next, is weary carrying her little son to the clinic. A trunk-lid fell on his back months ago, resulting in a deformed back and chronic abscess. "Oh, would that God would take him so that I could get time to earn my living. Otherwise where will my bread come from?"

The next, a young man who speaks some English, tells us that "his inferior parts are unwell, his stomach rolls up like a ball, and he is troubled with orphanism"—a serious combination, in very deed! This astute Turk pleads that we might examine him well, since he has nobody to care for him.

"Have you no wife?"

"Yes, two of them, but one is away and the other not well, so give me good medicine."

Knowing a very little of Turkish cuisine by now, one would be free to forecast a good recovery if the wives stayed, where they are, a little longer.

The next man, anxious to crowd in, has had his ear chewed off by a donkey. He is carrying it in his hand, and wants to know if we can put it back again, "the same as Jesus did."

The next four, village men, with the wonderful combination of colors, rags, and beauty (how we love them), are just ready to leave us this morning. A week ago they staggered into the Hospital yard from a fifteen-days' foot journey. Feet sore, swollen, ulcerated; pulses throbbing with high fever—no money—no friends—no home. Oh, the light that lightened their faces when they found the clean beds and friendly nurses!

The Hospital Calls for Aid

Although some of the most real and obvious factors in our environment are donkeys, mosquitoes, fleas, flies, dust, filth, and mud-made huts, yet we would exchange with none. We covet nothing of another except the strength that would give us ever wider service and carry us far into the added years. Yes, one thing more we covet—your power to help *now*. Could you see the suffering of these forsaken human beings as we see them, hear their pathetic tales as we must, feel with them in their gropings for love and relief, life, indeed, would seem cheap and in vain that did not spend itself for such as these.

The International Relief Committee, which rendered such magnificent service after the massacres and which gave inception to this hospital enterprise, has bequeathed to others the continuance of its work. No hospital, even in the most prosperous and progressive country, is entirely self-supporting, much less could one be on this Cilician Plain, but so recently and completely laid waste. It is true that we welcome every opportunity to further the Hospital's support by means of pay-patients and outside practice; yet, it is not the policy of the Hospital to strive for entire self-support, for in doing this it would be compelled to cater to the well-to-do classes, those who can get help otherwhere; while the great mass of sick poor would be left untouched, those who can get help nowhere.

Four village men

Thirty-six beds occupy the wards, not one of which, as yet, is being fully maintained by funds from without, yet the majority of which must needs be filled with homeless, friendless sick. Especially is it true of a hospital in Adana (the heart of the Cilician Plain), whose population of 60,000 is doubled, during certain periods of the year, by wandering, homeless men seeking work in the fertile fields about us, but many of whom are stricken with the subtle diseases of these low lands.

"Love your enemies." Where in the width of this wide world could be found a spot more fitting to incarnate this supreme teaching of our religion of love than on this blood-stained plain, where men of one religion—thousands of them, innocent, helpless—were shot down, cut in pieces, mangled, torn, trampled to death by the frenzied hate of men of another religion.

"Love your enemies." When could it be more appropriate than now, after such unbridled hate has spent itself in human destruction, and when from amidst the wreckage and ruin on all sides the cry of distress and the calls of the suffering seem endless!

"Love your enemies." How better could it be done than in an institution whose one impelling force is the love that would minister to the diseased and the defiled, the lame and the blind, the lonely and forlorn, those in pain or in the pangs of death?

"Love your enemies." We will to do it—in living action—every day; but—and let this strike to the heart—the power to make it possible lies with YOU.

The maintenance of the hospital beds is only one of the immediate tasks confronting us in off-duty hours. Others of like importance are the salaries of Miss Davies and the American physician, not yet assured; the support of our native nurses in training; the pharmacy; and the special assistant, who would investigate the poor, attend the clinics, and keep the Hospital linked with the homes. All of this we shall be pleased to tell any of you in detail if you will write us about it.

To us there is no more sublime work—the divinest form of human help for human. It is intensely interesting and difficult. We shall push on in it, confident that it can not languish.

Some of you who read this are very near to me. You have said that I should be back soon. No, not soon—never, to stay. For I have to help a multitude of help-seeking sufferers, and I cannot leave them until I must or until all tears are wiped away and there is no more pain. No, I shall stay here and work for these people.

Medication for the Senile

By I. L. NASCHER, M. D., New York City

Instructor in Geriatrics, Medical Department of Fordham University

EDITORIAL NOTE.—The treatment of the diseases of old age is receiving more intelligent study, thanks quite largely to the efforts of Dr. Nascher, whose paper we are pleased to present to our readers. The subject is one deserving careful consideration.

IGNORANCE of the anatomical and physiological changes that go on in the process of ageing, and ignorance of the action of drugs and other therapeutic agents upon senile degenerate tissue are responsible for our general lack of success when dealing with aged patients. The popular diagnosis, "old age," betrays our ignorance and indifference. The customary attitude of "let the old man have what he wants" and giving a placebo in lieu of treatment, or perhaps a simple tonic, is a further evidence of ignorance and indifference on the part of physicians. You all have heard this before; nevertheless, I intend to repeat it in my papers and lectures until the medical profession will believe with me that the old man is worth saving and they will make efforts to save him, until geriatrics at last is recognized as a worthy branch of medicine.

In my paper on "Minor Senile Ailments," printed in last October's number of CLINICAL MEDICINE, I gave some suggestions on diagnosis and treatment, while in a recent paper on "Errors in the Treatment of Senile Cases"[1] I pointed out a number of errors frequently made in treatment. The present paper is an elaboration of those mentioned, in so far as they relate to drug treatment.

Main Underlying Principles of Treatment

The underlying principles in the treatment of senile patients are threefold: (1) to avoid what may hasten degeneration, (2) to restore tissue and functional activity to the *normal senile* state, (3) to guard against the usual causes of death, from the moment of treatment.

Let me say something about the first of these principles. "Excessive stimulation hastens degeneration." This assertion may be taken as a medical axiom. There is a normal limit of functional activity, and an extreme limit of functional capacity. In the heart, for example, the normal functional activity of the left ventricle is a force of 51.5 pounds exerted about 70 times a minute. The limit of its functional capacity has not been determined, but the same force can be exerted 150 or more times a minute for a short period, but if carried much beyond this the maximum capacity is reached and the heart becomes paralyzed. In old age the maximum capacity of the organs and tissues is diminished and it may not exceed the normal functional activity of maturity. In the heart, while the maximum capacity is diminished, the functional activity is increased, to overcome the resistance in sclerosed vessels and increased viscosity of the blood.

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[1] *New York Medical Journal*, October 12, 1912.

In old age the two points, normal functional activity and extreme limit of functional capacity, are brought closer together. In other organs functional activity is diminished, but the capacity is diminished to a much greater extent and complete breakdown may occur upon even slight stimulation. Stimulation of an organ beyond its normal functional activity but within the limit of its functional capacity causes rapid degeneration through the diminished reconstructive ability in old age.

Among other facts to be remembered are the altered metabolism, the increased waste, the insufficient repair, the increased elimination of phosphorus, the diminished elimination of calcium, lessened assimilation especially of proteids, and the greater tendency of these to intestinal decomposition.

Attention to the Alimentary Canal

The good advice to "clean out, clean up and keep clean" applies with especial force to the aged; but there are some things that are cleaned out that are beneficial to the organism, while some things that are detrimental to the organism can not be cleaned out, and the only thing we can do is to keep them out in the first place.

The most important substance of the category last named is calcium. This element is necessary to the body, but an excess of it is the most important factor in causing rapid senile degeneration. Weil has shown, by his experiments, that the normal elimination of calcium is much reduced in the aged and that its elimination is not increased by augmented lime introduction; in other words, calcium is retained in the senile organism, and this excess is disposed of in various ways. The calcification of bone is one of the results; so also the ossification of cartilages. Deposited in blood-vessels, this calcium excess produces arteriosclerosis; precipitated in the joints, it causes gout and allied ailments; while, further, it is probable that when carried in the blood it increases the latter's viscosity and the tendency to coagulate, thereby favoring the formation of emboli, thrombi, and vegetations. Thus, however valuable the calcium salts may be in earlier life, they have no place in the therapy of senility. (They might, possibly, be of service in senile osteomalacia, but I have never heard of such cases.)

The second of the underlying principles of treatment is to make an effort to bring all the tissues of the body, and their functions, to the *normal senile* state. It is folly to attempt a restoration of the state of maturity. Functional activity sometimes can be raised to the norm of maturity, but it is then excessive, from the standpoint of the senile norm, and will result only in more rapid breakdown.

Tissue degenerating in the normal process of involution can not be brought back to the state of maturity. Skin grafted from a young person upon an aged one soon assumes the character of senile skin; but when the skin from an old person is grafted upon a young individual it retains its senile character.

The Aim Must Be to Support Nature

Disease in senility is either an increase, a decrease or a perversion in structure or function from the norm of senility, and so our efforts should be directed toward restoring this norm, and not that of maturity. The physician who fails to recognize the senile norm becomes discouraged when he finds that he is unable to eliminate the albumin in the urine or to diminish the ache in the stiffened joint, and then frequently resorts to more powerful remedies, thereby only doing positive harm.

Lacking scientific knowledge of the action of drugs and of other therapeutic measures upon the senile organism, any work dealing with such patients is simply empirical or experimental. Published reports of results from the various forms of hyphenated therapy are unsatisfactory and, hence, I shall confine myself in this paper to such forms of drug-therapy as have given me the most satisfactory results.

Owing to the uncertainty of drug-action upon the degenerate tissues as well as the frequency of secondary effects being more pronounced than the primary, or desired, effect, substances natural to the system should be given, whenever possible, in preference to drugs not natural to the system.

Supply the deficiency where deficiency exists, instead of stimulating the organ to increased activity. No harm can result from an excess of lecithin, hemoglobin, sodium cholate, the enzymes, etc., as the system will not take up the excess. The same applies to vegetable substances that are readily metabolized, such as the nucleins and vegetable enzymes. On the other hand, some inorganic salts that are natural to the system are not readily taken up and, if absorbed, are almost wholly eliminated. I have repeatedly given iron salts and organic iron preparations to senile subjects having a low hemoglobin percentage, without the slightest effect, yet rarely fail to get results when giving hemoglobin or hemogallol.

The Use of Phosphorus, Strychnine, and Arsenic

I have had the same experience with phosphorus and lecithin. In neurasthenia and psychasthenia the lecithin will give good results; when, however, there is a marked increase in phosphorus elimination, the amount of phosphorus in the lecithin is insufficient to replace the waste. The normal elimination of phosphoric acid by the urine is from 40 to 55 grains daily. If increased by 5 grains, it would require about 100 grains of lecithin to replace the waste. In such cases I use the amorphous phosphorus in doses of 1 or 2 grains several times a day.

In senile debility I use amorphous phosphorus, strychnine, and arsenic. The strychnine must be omitted if there is cardiac hypertrophy, since further cardiac stimulation will hasten the degeneration of the organ. If there is no contraindication to strychnine, the arsenate in 1-128 to 1-64 grain dose is combined with amorphous phosphorus, 1 grain, given three times a day. In secondary arteriosclerosis the arsenic and iodine can be given in the form of arsenic iodide in 1-30 to 1-15-grain doses.

It is folly to try to restore a physiological senile arteriosclerosis; but many times this condition is traceable to a former syphilis, rheumatism, gout, diabetes or some infectious disease. Here arsenic iodide will be of service; however, if there is an iodide eruption or other indication that the drug is producing a physiological instead of a therapeutic effect, it must be discontinued. In such case we have a normal degeneration of the blood-vessels, and the best we can hope to do is to relieve the symptoms.

Cerebral arteriosclerosis usually produces the most distressing symptoms, prominent among these being headache and vertigo. These are due to cerebral anemia or an alternating cerebral anemia and hyperemia.[2] The vertigo accompanies the anemic phase of the disease, and here sodium nitrite in 1-grain doses will speedily relieve. Some persons have a peculiar idiosyncrasy to the nitrites, wherefore the effect of the first dose should be watched. If it produces a persistent erythema or a cyanosis, the drug must be discontinued.

If the cerebral anemia is accompanied by cardiac hypertrophy and a full, rapid pulse, aconite or aconitine may be added to the nitrite; but the coal-tar derivatives should not be used. They are of service only when there is cerebral congestion and the heart and lungs are in good condition—a combination rarely found in the aged.

Superiority of the Active Principles

A word about active-principle medication in senile affections. It is hardly necessary to discuss the general advantages of the active principles over crude drugs and galenics. But these advantages apply with greater force in senile cases, for the reason that the disadvantages of the galenical preparations are more pronounced.

Thus, in the senile condition, absorption and assimilation are slower, while in respect to many substances these functions are altered. Tannin-bearing drugs are absorbed slowly or not at all. This excludes many crude drugs and their tinctures from senile medication; for, being carried to the intestines, they here act as astringents, interfering with the already impaired intestinal peristalsis. The alcoholic menstruum of the usual galenic acts as an irritant to the stomach unless given during the progress of a meal, in which case it is mixed with the food and slowly absorbed. If taken only with meals, the drug is absorbed as slowly as the alcohol and food, and instead of getting a pronounced action we get an infinitesimal effect prolonged. Thus, if we give 5 minims of tincture of aconite during a meal, we shall get the effect of about 1-10 minim every few minutes. In case the vegetable drug is given in the crude state, its action is slow and uncertain, owing to the mass of inert material present, and cumulative effects are produced if the dose is repeated.

Many vegetable drugs depend for their action upon the hydrochloric acid of the stomach, which liberates and dissolves the active constituents. But the acid of the stomach is diminished in the aged and may even be absent an hour or two after a full meal.

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[2] *New York Medical Times*, November, 1912.

The alkaloids or their salts are freely soluble and readily absorbed. The glucosides, resins, and oleoresins are carried to the intestines, where there is much less interference with digestion and absorption than in the stomach, as there are a number of enzymes, besides the bile, to convert these substances into readily absorbable material. When there is a deficiency of bile, the resins and oleoresins may pass through unchanged; hence, when giving this class of drugs to the aged, it is advisable to add the bile-salts.

Watch the Secondary Effects of Drugs

We must always remember secondary effects when giving drugs, as these sometimes produce unexpected results. In a former paper I have called attention to the secondary effect of belladonna when combined with aloin, the same nullifying the action of the latter in senile constipation. The secondary effect of digitalis and its glucosides upon the blood-vessels, of strychnine upon the heart, of opium and morphine upon the respiratory centers, of aloes and aloin upon the pelvic vessels, of the iodides upon the stomach, of iron upon the intestines, and so on, often is more pronounced than the actual effect aimed at in senile disorders. So far this phase of senile medication has received no attention at the hands of the profession, and, yet, it is responsible for many deaths.

In this connection I will mention one case in point, one to which I have already referred in a recent paper.

The patient, aged 68, suffering from trifacial neuralgia, expired five minutes after taking a powder consisting of 1-4 grain of morphine and 1-120 grain or atropine. On former occasions this combination, given hypodermically, insured speedy relief. This time it was given by mouth, and death resulted from respiratory paralysis. The combination is rational, as the atropine, which is a respiratory stimulant, is intended to overcome the respiratory depression produced by morphine. But morphine acts in the healthy empty stomach in from five to ten minutes, while atropine begins to act in only from twenty to thirty minutes; and in this instance the harm was done by the morphine before the atropine had begun to act. Such occurrences show that we must know not alone the physiological antagonists but the rapidity of their action as well when prescribing such combinations.

Staying the Hand of Death

Taking up the third of the underlying principles of treatment of senile patients, I can not impress upon the mind too strongly the fact that, "in maturity, nature cures; in senility, nature kills."

Degenerate senile organs and tissues can not accommodate themselves to impaired functions of allied organs and tissues as they can in maturity. In their efforts to do so they hasten their own degeneration, and there is no restoration or repair of tissue undergoing senile involution. Furthermore, in every case of senile disorder, however mild it may be, there is always the danger of a fatal issue, not alone as the direct result of the disease, but as a consequence of secondary diseases in allied organs.

Death in the aged may be due to general exhaustion, to exhaustion or paralysis of the heart, paralysis of the lungs, or toxemia.

Keep up the patient's strength by small doses of alcohol, together with phosphorus or lecithin combined with arsenic. Give strychnine if the heart is weak; not, when it is strong. Watch the heart—not the pulse, but the heart. If the heart becomes slow and weak, give sparteine; if rapid and weak, give strophanthin. If the heart becomes weak but the rate is normal, stick to strychnine. Dyspnea or shallow breathing calls for atropine.

Toxemia may be due to intestinal decomposition, retention or suppression of urine, carbon-dioxide poisoning (incomplete aeration) or to other toxic material in the system. The indications in the case of intestinal decomposition are clear: thorough elimination and intestinal antisepsis.

Draw off the urine with a catheter. If there is none and the patient has not passed any urine in six hours the patient has uremia. Give hypodermically 1-10 grain of pilocarpine and 1-64 grain of strychnine; or 1-32 grain of strychnine if the heart is weak, as the pilocarpine will still further weaken it. In appropriate dosage, the nitrate of potassium or of sodium will act as a diuretic in about three hours. The vegetable diuretics are too slow in an emergency. They should be employed from the onset of a febrile condition or if the amount of urine passed during twenty-four hours is less than 700 Grams.

Carbonic-dioxide toxemia, evidenced by cyanosis, requires, first of all, increased pulmonary activity by means of atropine.

The nitrites may be given if the face is sallow cyanotic; but if it is purplish cyanotic, showing cerebral hyperemia, a further influx of blood through vasodilatation will cause cerebral hemorrhage. Oxygen is usually the last resort.

The discussion of the bacterial toxemia of infectious diseases would carry me beyond the limits of this paper. I have referred in this paper to a number of drugs not generally employed; these remedies have served me well in senile cases, and they will serve equally well every physician who will take sufficient interest in his senile patients to study them as thoroughly as he does the young. Look to the bowels, watch the heart, and make the old man feel that he is not as old as he looks.

The Clinical Congress of the Surgeons of North America

A Review of the Third Annual Session, Held in New York, November 11 to 16, 1912

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THE brain-child of a surgeon-journalist has grown to be a giant. 'Tis true that it has been fostered from its inception by a general manager of uncommon generalship and that its growth is due to friends who are the leading surgeons of the country—which is as much as to say, of the world. Yet, Dr. Franklin H. Martin has great reason to be proud, as the father of "The Idea."

In the third year of its life, the Clinical Congress has grown to such size that a resolution was passed to consider limiting its membership. Up to Friday of the week of the meeting, 2800 had registered. There was talk of limiting the membership, in the future, to 2000.

Evening Attractions

And what were the attractions that drew all these busy men to New York? Well, there was a series of evening lectures, at the Waldorf-Astoria. Monday evening Albert J. Ochsner gave his address as retiring president; President Edward Martin's annual address dealt with hepatic cirrhosis; while William J. Mayo lectured on the surgery of the spleen. On Tuesday Geo. W. Crile was heard on anesthesia and the anoci-association; Otfried Foerster, on excision of spinal nerve-roots; Chas H. Frazier, on surgery of the spinal cord; D'Orsay Hecht, on the surgery of the cord (neurologic side). On Wednesday Richard R. Smith discussed the enteroptotic woman; W. Arbuthnot Lane, chronic intestinal stasis; John G. Clark, gastrointestinal stasis; Robert C. Coffey, replacing and retaining operations in gastric and intestinal stasis; Joel E. Goldthwait, orthopedic principles in enteroptosis and chronic intestinal stasis. On Thursday evening, at the Academy of Music, Brooklyn, W. W. Chipman treated problems of obstetrical practice; Thomas S. Cullen, operations for cancer of the uterus; Wilhelm Weibel, the Wertheim operation; X. O. Werder, cautery in the treatment of cancer; George Gelhorn, radical operation through the vagina for uterine cancer. At the Astor Gallery, also on Thursday evening, Chevalier Jackson held forth on the subject of bronchoscopy, esophagoscopy, and gastroscopy; Myles Standish, on the extirpation of the lacrimal sac; and Ewing W. Day, on otitic meningitis. Friday, the last evening, E. G. Abbott spoke on lateral curvature of the spine; John B. Murphy, on the surgery of the bones and joints; E. S. Judd, on prostatectomy. Besides, each evening there were prepared discussions by various able men. One can not attempt here to give even brief abstracts of the evening addresses, but a few thoughts from two of them may be presented here.

The Retiring President's Remarks

Dr. Ochsner spoke of the nobility of service to humanity and of the lines of usefulness of the Congress. He said there was a time when wealth, victory in combat or personal aggrandizement was the measure of a man's greatness, but in this era it was recognized that service was the highest element of achievement. Education should include the ethical development which leads to willing personal service. If men came to the meetings only to improve themselves for their own profit, this Congress was a failure. But, if it brought about better service to the people, then these conventions were a useful element in American progress.

Through the exchange of ideas at the Congress many important facts will be carried by the men to their homes all over the country and utilized for the benefit of their patients. Among the younger men, there are many who are doing excellent work, and this would give them an opportunity of demonstrating their ability and their methods, and by comparisons each learns to appreciate better another's work; and thus development of provincialism is presented. The witnessing of another man's work is a great stimulus, also, to scientific reading, and by personally knowing men one places a more just estimate upon their writings. Continual study is necessary; indeed, the great surgeons of the country quite generally have acquired their knowledge and skill after leaving medical school. If one should select ten of the surgeons who rank highest in the estimation of the profession in this country, not more than three or four of them would be found to have had a university education; it is those who have been inspired with lofty enthusiasm and who studied constantly who have risen to high rank.

The Treatment of Hepatic Cirrhosis

The address of the president, Dr. Edward Martin, dealt with the treatment of hepatic cirrhosis. The approach to the liver, Dr. Martin declared, must be adequate for sight, touch, and manipulation. The incision recommended was one vertical through the rectus muscle to within two finger-breadths of the umbilicus, with a second incision transversely, at right angles to the first. The most serious obstacle in surgery of the liver, he said, is hemorrhage. It is the flow of blood that has retarded surgery of the liver so much more than surgery of the kidney. The liver possesses no mechanism for controlling hemorrhage, but its structure is such as to favor it, for the large vessels are held open by their attachment to the parenchyma. In many pathological conditions the tissue is rendered still more brittle and easily traumatized.

However, the blood pressure is quite easily controlled by finger pressure on the vessels. It had been found experimentally, by taking a liver and attaching to it a water supply with measured pressure, that the flow could be controlled by manual pressure without damage to tissue. Also, it could be controlled by stitching around a given area. A needle was used about the size of an ordinary knitting-needle and blunt-pointed, so that it could be pushed through the tissues without probability of its piercing large vessels. The needle could be bent at any angle and was provided at one end with a socket into which could be screwed the catgut ligature. The ligature filled the lumen of the needle track and so packed the channel. The experimenters used triple and quadruple catgut and closed the wounds with a mattress suture. If the tissue proved to be brittle, they put a muscle flap, usually cut from the rectus, across it and stitched the wound through the muscle-tissue. These muscle flaps were found excellent for hemostasis.

It seemed rational, Dr. Martin thought, that decapsulation, which has proven so excellent a procedure in kidney surgery, might be of advantage in hepatic cirrhosis. Decapsulation produces more superficial traumatism when done upon the liver than in the case of the kidney. He believes that ascites is an advanced condition of hepatic cirrhosis, and not due to back pressure, but to the diseased condition of the endothelium of the peritoneum. As a remedy for the ascites, he had endeavored to modify the collateral circulation. In pursuance of this purpose he had selected the vena cava and iliac veins, and had made anastomoses upon the cadaver, with apparent success.

The Clinics and Demonstrations

The official directory and bulletins of the Congress listed 92 different hospitals, sanitaria, dispensaries, and laboratories in which surgical clinics and demonstrations were going on, every day, all the week, filling the hours from 8:30 in the morning until late in the afternoon, and presenting in the aggregate elaborate programs, from which the visitor might take his choice in general surgery, gynecology, obstetrics, genitourinary surgery, ophthalmology, otology, laryngology and rhinology, orthopedics, radiology, and laboratory work, all in great numbers and variety.

On opening the session, Dr. George E. Brewer, chairman of the Committee of Arrangement, announced that there was nothing spectacular to be shown and that those who expected to see extraordinary operations, rare methods and unusual cures would be disappointed. He said the New York surgeons would demonstrate only methods practised daily, with a maximum of safety and a minimum of discomfort to the patient.

And this was a very good preparation; for, to be frank, the average visitor was not carried off his feet by any remarkable brilliancy of surgical acumen or technical skill or pedagogic power displayed individually by the men of the metropolis. But the general level of the week's work was high-class. When I mention a few practical points, in detail, it is not with the inference that these are by any means all that were worth while; but more are not instanced because space is limited.

Osteoplasty in Pott's Disease

Hibbs demonstrated at the Orthopedic Hospital an operation for immobilizing the diseased vertebræ in spinal caries. This procedure has been published, early in its history, but the originator has used it in now nearly a hundred instances, which show good results. It is advised for all ages and at all active stages. The operation is performed as follows:

Cut down medially upon the spines of the kyphos and include one above and one below those diseased, as shown by a radiogram of the deformity. Divide the periosteum and intraspinous ligament and lay bare the spines and the laminæ, pushing the soft parts laterally as far as the bases of the transverse processes. Beginning with the lowermost one, each spine exposed is cut partly through, upon the upper side near its base, and bent downward until its tip rests upon the bone below it. A small piece of bone is now raised from the lower edge of each lamina and turned downward upon the lamina below it. The soft parts are now sutured over the bones with chromic gut, and the skin incision is closed. Gauze dressing is put on and then the usual brace, with enough width between the upright bars so as not to press the wound.

The patient is kept in bed ten weeks, and must wear the brace for five or six months. You know what happens where periosteum is raised from bone—new bone is deposited between the surfaces. The spine is stiffened over the area of the operation.

Albee demonstrated transplantation of the crest of the tibia into a cleft made by splitting the spines of the kyphos, and claims good results in immobilizing and consequently curing. Both operations need more time yet to test ultimate effects. The former plan seems the more reasonable.

Carrel's Blood-Vessel Suturing

Carrel's demonstrations of blood-vessel suture, at the Rockefeller Institute, were, as might have been expected, well attended at every repetition. Speaking of Carrel, the assembly in his honor, in celebration of his winning of the Nobel prize in surgery, took place at the College of the City of New York, on Saturday the 16th. This was no part of the Surgeons' Congress; but many of the visiting surgeons attended. President Taft and Ambassador Jusserand took prominent parts, and the platform was crowded with city officials and notables in the pedagogic world, while the hall held an audience estimated at four thousand.

Operation for Relapsed Clubfoot

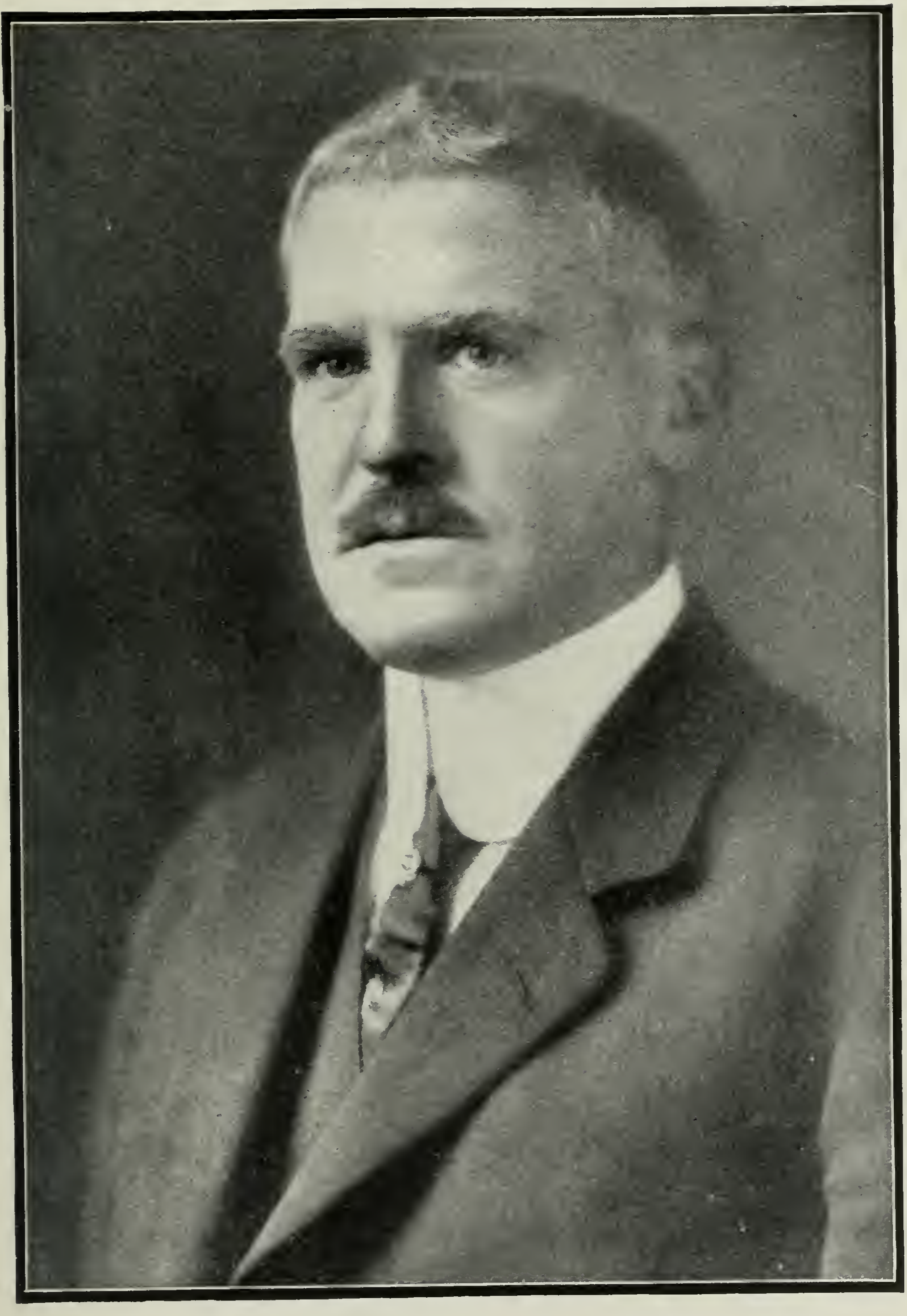
H. L. Taylor had announced that he would perform Cook's operation for relapsed clubfoot, on Wednesday at the Post-Graduate College, but, instead, he produced A. G. Cook (of Hartford) himself, who did the operation. This operation has not as yet been published, but may here be described as follows:

First, if necessary, the fascia is divided subcutaneously on the inner side of the foot, and also the heel-cord, and then as much correction as possible with the hands is made. Then a perpendicular incision is made through the skin and superficial fascia, just in front of the external malleolus. With an osteotome, a large wedge of bone is removed, the first incision being just in front of the fibula. The apex of the wedge reaches clear through the bones. No attention is paid to the periosteum or the peronei tendons. If the wedge removed is large enough, the foot can now be brought easily into a corrected position and the outer border elevated by giving the foot a quarter turn. Only skin sutures are used.

Cook modestly says the operation is simple and easily performed—"and the proof of this statement is, that I can do it." He uses a light splint in preference to a plaster cast, and sometimes lets young children walk at the end of the second week. A dressing is worn six or eight weeks, then the ordinary shoe is put on.

A New Hospital Building

The new Hospital for the Ruptured and Crippled is a large and fine affair, and when completed and equipped is intended to be



Dr. Edward Martin

The Philadelphia Surgeon who presided at the last meeting of the Congress of Surgeons of North America, recently held in New York

as complete for its purpose as one can be made. It is almost ready for occupancy and on Friday the 15th it was open for a personally conducted tour of inspection by the orthopedic surgeons under the leadership of Virgil P. Gibney. After a speech of welcome by W. C. Osborn (layman), president of the board of trustees, the first surgical use of the building was made in the demonstration by E. G. Abbott, of Portland, Maine, of his method of treating lateral curvature of the spine. A description of this procedure would take too much space here, but I want to comment, in passing, that it will, I think, lead to renewed interest in the study of this class of cases and to more cures being effected; but that there will be a decided moderation in the haste for quick results that characterizes the early claims for the method.

Transfusion with Brewer's Tubes

A demonstration of one of the most useful of surgical procedures was made at the Babies Hospital by W. A. Downes. It was direct transfusion done with the Brewer tubes.

The small glass tubes are boiled in liquid albolene [white liquid petrolatum]. The artery of donor and vein of donee having been exposed and dissected up a distance of an inch or more, a small tape is passed around each vessel and pinched with a hemostat and the vein is ligated and cut proximally and the artery distally to the tape. The projecting end of each vessel is then washed out with salt solution and smeared with albolene. A tube of the right size for the vessels is selected and shaken (to free its lumen of albolene), an end is introduced into each vessel and tied with silk. The small amount of air in the tube may be entirely disregarded. The tapes being now loosened, the blood flows through the albolene-coated tube with no danger of coagulation.

This is really the easiest method yet devised for transfusion; and it might be said to be "so simple that a child can use it," if only someone would find an easy way of taking up the vein in a bloodless infant. It has occurred that neither the median cephalic nor median basilic were successfully isolated, and recourse was had to the cephalic, the basilic or saphenous. If you have a friend who boasts that transfusion is always easy, induce him to try it in a bloodless or hemorrhagic infant.

The Newspapers and the Congress

It is worth while briefly to notice the part taken by the newspapers in giving publicity to the doings and sayings of the Congress. Of course such items are most avidly seized upon as are capable of being worked into a sensational story with eye-opening headlines. Thus "Buzz-saw Run by Electricity Used to Cure Human Skull" introduces an account of Dr. Hartwell's operation at Bellevue. And there is the free handling of technical terms and that flippant disregard for scientific accuracy which usually marks the newspaper medical article. Thus the thrilling tale of a "Silken String Used as a Jig-saw on a Patient" describes in detail a demonstration at St. Luke's Hospital by Dr. Robert Abbe of "stricture of the esophagus or clogged windpipe"—an operation by which "a silk thread is run down the windpipe, followed by an incision in the stomach and the use of a see-saw movement with the thread cutting the sides of the stricture." Incidentally (of course it is quite incidentally and unavoidably during such a series of clinics) the doctors themselves get some free advertising; but, really, there was less of individual posing under the spotlight during this meeting than one has sometimes witnessed.

Notwithstanding all the yellow tendencies of the average newspaper, and all their inaccuracies, and all the spreading on of printer's ink to ease that itch for notoriety which afflicts some members of the profession, there is no doubt of the value of the papers in enlightening the public in a general way upon medical topics. The people get some sort of conception of the wonders of modern medicine and are more inclined to apply for relief, and they do it with more hope than formerly of receiving aid.

Publicity in Regard to Cancer

At this session the Congress of Surgeons took action to enter deliberately upon a campaign of publicity in regard to the early symptoms of uterine cancer, its curability if attacked surgically in an early stage—and only then—and the necessity for every woman on her first discovery of indications to apply at once th her physician. A committee was appointed, and in due time the newspapers and magazines and other suitable channels will be used to aid in this important labor for the good of womankind.

Fatal Stovaine Anesthesia

One incident occurred during the Congress, that, being widely discussed by the newspapers, did not redound to the glory of surgery or promote public confidence in the profession.

A man aged about fifty years, patient of Dr. William Seaman Bainbridge, was about to be operated upon, for hernia, under spinal anesthesia. I cannot speak from personal knowledge, but it is related by those who were present that the demonstration of the administration of stovaine in the spinal canal was done on the third floor of the Polyclinic Hospital and that after the injection the patient was removed to the operating room on the ninth floor, where he died, before the operation was begun. The case was in the hands of the coroner, and I should surmise that one among the interesting questions raised at the inquest will be, how much and in what manner a patient ought to be handled or transported after receiving a spinal anesthetic—or, for that matter, any anesthetic.

Friendly Criticisms

Now, having assumed an attitude of friendly criticism, let me comment on two or three points relative to the recent clinics. The main object of the Clinical Congress is, I take it, to improve the science and practice of surgery. If so, why does operative surgery receive nine-tenths of the time and attention at the clinics? More often in the practice of a real surgeon the history, the examination, the diagnosis, the pathology, the prognosis, the indications for the operation, the choice of operation and other subjects are nine-tenths of his real work, and the operation itself sometimes the least important in the whole series of efforts. Yet, in the great majority of clinics, what is done?

One of the house-doctors, while fumbling his papers, gives a few items as to age, sex, time of admission, and some laboratory findings, then the surgeon picks up his knife and makes his incision. How seldom do we see the groundwork of the case cleared, the condition stated and classified, the proposed operation described and the reasons "why" given, all in clear, clean-cut sentences, as John B. Murphy does it? How rarely does a surgeon think, and think aloud as he works, and by his remarks, few but to the point, allow you to follow his reasoning over the case as one is privileged to do at Albert J. Ochsner's clinics. How often does one witness such lucid demonstrations as those of John G. Clark?

These are high standards to set, but they should be attempted, at least in a measure, in institutions of learning and in clinics held for the purpose of promulgating scientific knowledge and the demonstration of methods and technic.

Further, every surgeon who essays to teach surgery in the amphitheater, at the operating table, should learn to work and should train his assistants to place themselves and to work in such a manner that spectators can see what is going on. It is a matter of practice. Many operations can be done equally well with the surgeon and his necessary assistants all on the same side of the table. In some of the clinics there are too many assistants, anyway, for the good of the patient.

One observes some other opportunities for improvement even in the great clinic of a big city like New York. Let me ask a few simple questions: Is there any good reason why an operating-room should not be well ventilated? Does warm air necessarily mean that the air should be stagnant and rebreathed air, laden perchance with germs of pneumonia or grip, furnished by some among a score or two of spectators? Is it fair to bring an anesthetized patient, and another, and another, into a room like that without a change of air? Could not fresh, pure, properly tempered air be introduced from below without risk of draught or dust-carrying currents? The answers are obvious.

Committee on Hospitals

I commend the subject of the air of operating-rooms to the committee appointed to standardize hospital equipment and hospital work. The resolution recommending such a movement was introduced by Allen B. Kanavel and he was made chairman of the committee with that duty before them.

Preparation for Surgical Practice

Other important resolutions were introduced by Franklin H. Martin. They advocated the standardizing of surgical education and practical training, so that every physician who desires to practise surgery, in addition to his degree of M. D. must have been recognized and registered as a competent surgeon before he is allowed to perform surgical operations. The resolution proposes that colleges and other appropriate authorities shall be vested with power to award supplementary degrees to physicians qualified for surgical work. Dr. Martin said:

"I believe that this largest organization of surgeons on the American continent should assume the responsibility and the authority for standardizing surgery. This can begin at once by this body authorizing the appointment of a thoroughly representative committee, which committee shall have power to act alone or in conjunction with other committees invited to join them, along the following lines.

"It should formulate a minimum standard of requirements that should be possessed by any authorized graduate in medicine who is allowed to perform independently operations in general surgery or any of its specialties.

"The committee should consider the desirability of listing the names of those men who desire to practice surgery and who come under the authorized requirements.

"The committee should seek a means of legalizing under national, colonial, state or provincial law a distinct degree, which shall be conferred upon physicians possessing the requirements recognized by this law as necessary to be possessed by operating surgeons.

"It should seek cooperation with the medical schools of the continent which have the right to confer the degree of M. D. under the recognized standards and should authorize those colleges to confer the supplementary degree of surgeon on such of their graduates as have, in addition to their medical course, fulfilled the necessary apprenticeship in surgical hospitals, operative laboratories and actual operative surgery.

"The committee should authorize and popularize the use of this title by men upon whom it is conferred, and its use should especially be urged in all directories of physicians in order that the laity as well as the medical man can distinguish between the men who have and the men who have not been authorized to practice surgery.

"I believe that the time has come for a concerted action on the part of the great body of thinking surgeons on this continent to insist that the surgeon of the future shall not only be thoroughly educated in the science of medicine but that he shall have a thorough training in the technic of surgery under the direction of a practical surgeon before he is legally or morally allowed to operate upon the public.

"This is not, it seems to me, open to argument. This would protect unsuspecting patients who have no way of discriminating between trained surgeons and the tyro and would protect and put a premium where it belongs, on the conscientiously trained surgeon."

The resolutions were adopted, and the following committee was appointed: Edward Martin, Philadelphia; Rudolph Matas, New Orleans; W. W. Chipman, Montreal; John M. Finney, Baltimore; Franklin H. Martin, Chicago; Albert J. Ochsner, Chicago; Emmett Rixford, San Francisco; F. J. Cotton, Boston; Geo. E. Brewer, ex-officio, New York.

Officers Elect and the Next Meeting

The Congress elected the following officers: President, George Emerson Brewer, New York; vice president, W. W. Chipman, Montreal; general secretary, Franklin H. Martin, Chicago; general treasurer, Allen B. Kanavel, Chicago; general manager, A. D. Ballou; chairman of the committee of arrangements for 1913, E. Wyllis Andrews, Chicago.

The next meeting will be held in Chicago, time to be determined.

How I Treat Lobar Pneumonia

A Method Which Has Given Success

By **GEORGE H. CANDLER, M. D.**, Chicago, Illinois
Author of the "Every-Day Diseases of Children"

ACUTE lobar pneumonia is now generally recognized as being a specific fever—not the mere local congestion with symptomatic hyperpyrexia described by writers of twenty-five years ago, and even later. In a vast majority of cases the diplococcus pneumoniæ (pneumococcus) is the causative microorganism, although at times streptococci, staphylococci, and the micrococcus catarrhalis may predominate or be alone discoverable in the sputum.

The pneumococcus generates a poison (pneumotoxin), and the severity of the disease depends, not only upon the extent of lung involved—as so many physicians still believe—but, as well, upon the degree of virulence of the toxin and the presence or absence in the blood of a neutralizing substance (antipneumotoxin). The virulence of the pneumococcus varies remarkably; and as it is widely distributed—being found upon the mucous membranes of the mouth, nose, and throat of many individuals during the months of "colds"—there doubtless are numerous cases of true pneumonia so mild in character as to escape definite classification. It is not unusual for the pathologist examining sputum from a patient supposedly suffering from an acute bronchitis to find the pneumococcus present in considerable numbers, and careful auscultation in such cases almost invariably will reveal typical pulmonary lesions.

Why Some Succumb and Some Escape

The healthy individual invaded by pneumococci of a comparatively nonvirulent type is able to produce antibodies rapidly enough to prevent profound systemic disturbance, while the diplococci themselves are speedily destroyed. Upon the other hand, the virulence of the pneumococcus may be intense or the resistance of the infected individual so diminished that toxins are produced more rapidly than their antibodies, when, as a result, hyperpyrexia is developed, and the disease runs its classical course—which numerous physicians in practice still believe can not be shortened or even materially modified. For all that, in the great majority of cases, an oncoming pneumonia can be aborted; and there is no stage of the disease in which correct therapeutic procedures will not modify conditions to a greater or less extent.

I positively assert that any medical man who at this day regards pneumonia as a self-limited disease, destined by an all-wise Providence to run a certain course, not alone acknowledges his incapacity as a therapeutist but, worse, an unwillingness or inability to grasp thoroughly demonstrated etiologic facts.

The Basis of Rational Medication

All "positive" rational medication must be based upon a clear conception (1) of the normal, which *should be*, and (2) of the pathological conditions which *are* present in the individual under observation. For instance: If pneumonia is regarded as a localized ininflammation due to sudden and severe chilling of the body surface and the hyperpyrexia as a mere evidence of suboxidization or an effort of nature to dispose of the "products of congestion," it is not likely that the treatment instituted will be very effective. The very first essential is to antagonize the inimical organisms in the blood and tissues and to inaugurate conditions unfavorable to their propagation. We believe, then, in eliminating, as rapidly as possible, body-waste and toxic substances generally, realizing that full organic activity and a normal degree of resistance can not exist in an autotoxemic individual.

Therapeutic cleanliness of the intestinal tract having been secured, it really is not difficult to increase materially phagocytic activity and cause the rapid destruction by natural forces of the invading bacteria. Some of the methods of treatment advised prove almost as destructive to the patient as to the pneumococci; enormous doses of drugs, supposed to be bactericidal, are given at frequent intervals, causing derangement of the stomach and exerting an inimical effect upon the blood itself. If nutrition is thus further impaired and the natural resisting forces are weakened, it becomes a question whether the patient's vitality will prove sufficient to enable him to survive the injuries wrought by the physician in his effort to cure the pneumonia.

Startling experiences of this kind—patients dying from exhaustion just when the disease seemed to be under control—doubtless led to the adoption of the "expectant method" of treatment, with a consequent reduction of the death-rate to eight percent from the former of twenty-one. However, these figures are based upon hospital practice. The family physician still found himself losing an uncomfortably large percentage of patients and so, in pure self-defense, felt it desirable at least to try the various procedures advocated by enthusiastic individuals who claimed to have "treated ten, twelve, twenty pneumonia patients, without losing a single one by death."

The Multiplicity of Methods

Naturally it was not easy to decide between the multiplicity of treatments advanced and praised. Perhaps he could not persuade himself readily that the "best" method was to employ hot water, externally, internally, and persistently, meanwhile pushing diaphoretics and diuretics until the patient resembled a wet sponge. Neither was it a simple matter, sometimes, to convince the man down with pneumonia, or his friends, that the temperature of the bed-room should be as near the freezing-point as possible, when some other practician in the neighborhood was "saving his patients" (or some of them) by shutting out every breath of fresh air and compelling the inhalation of medicated vapor.

Then, just as the average conscientious doctor had winnowed out the good things, as he conceived, from the mass of theoretical chaff, some "eminently scientific" physician proclaimed that he had dropped all drugs and douchings, whether hot or cold, but was injecting a serum liberally. As a result, it was found, some patients thus injected recovered promptly; in others the disease ran the "usual course," while a certain number died rather quickly. Then, again, it seemed that the therapeutic nihilists had good grounds for terming pneumonia "a self-limited disease not to be influenced by the use of medicines." Doctors who had not adopted serum derided the users and, in turn, ridiculed the idea that the pneumococcus could be destroyed either by the internal or the external use of any medicinal agent.

What is Rational in Treatment?

Amidst all this uncertainty and confusion a certain number of men stood firm, asserting, as a principle, that it was irrational to treat "pneumonia"—or any named disease—but that, with a clear understanding of the pathological conditions present in each individual instance, it was comparatively an easy matter to select the appropriate and effective remedies for their correction. Moreover, these men—and each day their number increased—stated emphatically that they were able to abort the on-coming disease-process in the great majority of cases.

The authorities and laboratory men answered: "It is absurd to draw conclusions as to the efficacy of any medicinal measures, since pneumonia is prone, when left to run its natural course, to terminate suddenly and rapidly in complete recovery. It is, therefore, quite unjustifiable, however good the results that follow your treatment may be, to maintain that they are *due* to that treatment and not merely the natural issue of a series of remarkably benignant examples of the malady."

However, practicians of experience who are capable of acute observation and quick perception believe themselves able to distinguish between a long series of consequence and a chain of mere coincidences; and when, day after day, in case after case, they have secured uniformly beneficial results from definite remedial procedures they feel that they can trust their own senses and naturally conclude that such success is due to their own intelligent efforts.

Heretofore, perchance, their patients have been confined to their beds for from two to five weeks and then entered upon a tedious period of convalescence; now, nine out of ten are discharged within ten days, and moreover, their physical condition after recovery as a rule is good.

So long as such favorable reports were coming from a few dozen physicians only, located in remote parts of the country, the therapeutic nihilists and advocates of an "expectant treatment" contented themselves by saying that "these men have either erred in their diagnosis or have to deal with a peculiarly mild infection. To claim to be able to cure or abort a true case of pneumonia on the face of it is absurd."

However, the doctors who were "doing things" recalled the fact that Harvey had been called "absurd," "idiotic" and "criminally ignorant"; that Morton was scoffed at, and Lister derided by "the heads of the profession," and so they quietly went along curing pneumonia and reporting success.

About this time, serious outbreaks of pneumonia occurred in several states and physicians practicing along accepted lines lost very many of their patients. Those, however, who had recognized the force of the arguments advanced by the socalled positive therapeutists, and saw they were backed by results, adopted their method of treatment and scored successes which startled their rivals and caused a very general revision of opinion throughout the territory affected.

People refused to take tartar emetic, or huge doses of quinine and, in spite of it all, remain ill for weeks. They objected also to being starved and left to fight the fever themselves when their friends, under some other doctor's care, were up and busy just about the time when their crises were due. So, partly from example and partly by compulsion, hundreds of practitioners adopted that "absurd" treatment and, ridiculous as it may appear, immediately ceased to consider pneumonia a "self-limited disease" with, in certain cases, an inevitably fatal ending.

Naturally there were, and are, failures. Every physician is not a careful diagnostician or familiar enough with his materia medica to select the right remedies for the pathological conditions present in his patient at the time. Neither are *all* practitioners thorough enough to see that the medicines provided are given *to effect*, and that the general procedures are carried out as ordered.

A Busy Doctor's Error

One extremely busy and rather successful man fell into the habit of prescribing exactly the same drugs in the same doses and alternation for every pneumonia patient. It so chanced that his success in the first case or two brought him several more patients who were "threatened with pneumonia" and as any treatment is naturally more effective in the earlier stages of the disease, his routine methods yielded good results. Then he was called to see an elderly man troubled with enteroptosis who had been ill for five days under another physician's care.

His temperature was extremely high, sordes covered the teeth and the skin was harsh and dry. Auscultation revealed a mitral lesion, and the left lung was extensively involved. The twenty-four hours' output of urine did not exceed 14 ounces. Calomel, 1-6 grain, was given, with an equal quantity of podophyllin, every hour for six hours, with a saline draught two hours later and aconitine hydrochloride, gr. 1-800, veratrine, gr. 1-64, and digitalin, gr. 1-64, ordered continued half-hourly "until the temperature falls to 100° F." Calx iodata and bryonin were exhibited every two hours. One of the glycerine pastes was applied hot to his chest.

All these are very proper procedures in nearly every case, but unfortunately the calomel, podophyllin and laxative saline given this patient could not, under the circumstances, completely unload the feces-laden intestine, and with toxins being constantly absorbed therefrom aconitine—even when exhibited half-hourly—could not control the temperature. Moreover, the laboring heart required support, not a whip. The medicines were given faithfully for twelve hours. The bowels did not move, the skin remained dry, and the patient died after the twenty-fifth dose of aconitine and veratrine—from "syncope," the doctor said.

Had the bowel been thoroughly flushed and free catharsis and diaphoresis secured, the heart meanwhile being supported by the use of caffeine and strychnine, the temperature would have fallen under comparatively a very few doses of aconitine. To push this drug together with veratrine—or for that matter to give *any* antipyretic while the bowel is loaded with fermenting and putrefying fecal matter—is as absurd as to try to extinguish a fire among barrels of oil by throwing water on the shed containing them.

Adaptation of Treatment of Individual Needs

The physician who would secure the most positive results in the shortest possible time must think and must adapt his treatment to individual requirements. The essential remedies are few, but the size of dose and period of administration varies materially. If the patient is seen early enough (and it is well to teach our patients the importance of prompt treatment) *thorough* elimination—renal, dermal and intestinal—and the intelligent use of aconitine, digitalin and veratrine (or strychnine in asthenic cases), with guaiacol carbonate, calx iodata and quinine arsenate as alternants, will ordinarily serve to cut short the disease.

Forty to sixty minims of guaiacol may advantageously be rubbed well into the chest and then hot epsom-salt compresses, covered with flannel or a glycerine paste, should be applied. Such a dressing must not be heavy and should be changed every four to six hours. The application of ice-bags to the thorax "to reduce congestion" in a patient whose emunctories are inactive is decidedly poor practice.

Of course the patient must be put to bed in a quiet, well-ventilated room, the temperature being maintained at 60° F., or thereabout. The body should be sponged with a warm epsom-salt solution (one ounce to the quart) daily and an alcohol rub should follow. Barley water or a diluted fruit juice may be given freely and a daily tepid or cool saline enema ordered. Milk and seltzer, clam bouillon, albumen water, or buttermilk are allowable as foods. A robust patient who rebels at "slops" may have a little well-cooked rice, dipped toast, asparagus tips on toast, baked custard, soft-boiled egg, zwieback or a few raw oysters.

The mouth and nares must be kept clean by the frequent use of an alkaline antiseptic solution. One compound menthol tablet to eight ounces of water meets the requirements perfectly. A little glycerin may be added. If the mouth is extremely dry glycerin must not, however, be used, but the cavity sprayed occasionally with liquid petrolatum.

It is essential to secure therapeutic cleanliness and force elimination. It is not enough, however, to *prescribe* calomel, podophyllin and laxative salines at such and such intervals; the doctor must assure himself that the amount he has given does produce the desired effect. Almost invariably it is well to give a copious initial enema and when fecal retention is even suspected, 1-3 grain of calomel with podophyllin 1-6 grain and bilein 1-12 grain should be ordered half-hourly till six doses have been taken. The saline laxative should follow every two hours till the intestine is emptied. In some instances an ounce or two of castor oil may prove better than the saline. To obstinately constipated patients give, at body temperature, an enema of epsom-salt solution, containing one teaspoonful of the salt to a pint of water.

It is well to remember always that under ordinary circumstances the patient would not have contracted pneumonia had resistance not been lowered, while autotoxemia was present. Therefore, the physician will "eliminate waste, support vitality, increase resistance and equalize the circulation." Defervescence is easily secured if other systemic conditions are favorable.

Complicating Conditions

Certain definite complicating conditions require the use of appropriate remedies.

Pain, pleuritic in character, is a distinct indication for bryonin. This drug is often required early; then 1-64 grain should be given hourly or with the aconitine.

Should distress in breathing be marked and an irritating cough present, one-sixth grain codeine should be administered every three hours, Later, if expectoration is scant and viscid, apomorphine in small repeated doses acts ideally. Lobeloid may also be used with advantage especially in robust patients requiring a relaxant. Indeed, we are only just beginning to realize the value of this drug; not a few very successful practitioners push it till nausea or marked general relaxation is secured together with profuse diaphoresis. Furthermore, it is claimed that the drug in some manner not yet understood either acts as an "antitoxin" or materially limits the toxin-producing power of the pneumococci themselves. To secure the full systemic effect lobeline sulphate should be given hypodermatically.

Very weak, old or young individuals may be unable to rid themselves of bronchial secretions. Sanguinarin or scillitin will prove the best stimulant expectorants, for these patients. Ammonium carbonate may also be given or vaporized and inhaled.

Nuclein unquestionably must be regarded as a dominant remedy throughout, and if given in full dosage, from the first, will materially modify the infection. It is also peculiarly indicated as a vitalizing reconstructant in the stage of resolution or in improperly treated cases where the lung refuses to clean up and toxemia persists. Personally I would not like to treat the conditions present in pneumococcus infection without nuclein. So convinced am I of its value that some years ago I devised a formula (termed for convenience "nuguaiacal") consisting of nuclein, guaiacol carbonate and calx iodata. For a long time my patients have received this combination regularly, frequently with additional nuclein hypodermatically, and they respond well thereto without exception. The convenience of the combination is apparent.

Calcidin, definitely indicated in the third stage, is also often useful throughout. In fact, if elimination and defervescence are secured this drug, with guaiacol carbonate and nuclein, will meet almost all requirements. The value of iodine and calcium in all pulmonary infections cannot be overestimated.

From the moment the intestine is emptied until the patient is discharged the sulphocarbolates should be employed, the amount to be given depending naturally upon the conditions present. Usually five to ten grains, preferably in solution, three or four times daily, will serve to maintain the desired degree of intestinal cleanliness; but if the stools are foul, or evidences of intestinal fermentation are present, two or even three times that quantity must be given. Should the necessary dose cause gastric irritability a little menthol may be added.

Convalescence

The patient recovering from pneumonia requires tonic reconstructants, and it would be difficult to find a better combination than the arsenates of iron, quinine and strychnine, with nuclein. Cactin should be added unless cardiac conditions are entirely satisfactory—and they rarely are.

In these days, we do not use strychnine as extensively as our predecessors, for the simple reason that we do not permit our patients to reach the condition which demands its exhibition, but we all have to treat individuals who are benefited by it and now and then it is necessary to push the drug boldly. The arsenate is probably the best salt for internal use; the sulphate hypodermically. Cactin and strychnine will be found more effective than strychnine alone. Children seem to respond more readily to brucine.

The Connecticut Maneuvers From a Medical Viewpoint

By RICHARD SLEE, M. D., Swiftwater, Pennsylvania
Lieutenant, Medical Reserve Corps, United States Army

EDITORIAL NOTE.—Last year, Dr. Charles Stuart Moody, of Idaho, told us something about the maneuvers on the Pacific Coast, seen also through the eyes of a civilian physician attached temporarily to our military establishment. This year we are much pleased to give Dr. Slee's intimate sketch of the medical work on the field, as observed in the east.

THE Connecticut Maneuvers Campaign held last August in the hilly country of Connecticut, extending from Bridgeport north and along the banks of the Housatonic River, and westward toward New York for many miles, was the most comprehensive problem attempted by the War Department since the Civil War. Over 20,000 men of all arms of the Service, both regulars and militia, were engaged, nearly double the number of those participating in the Texas maneuvers along the Mexican border the year before.

Problems were worked out, so far as possible, on a war basis, and in this brief article it is my intention to discuss only those which especially interest us as medical men. Few physicians who are not in touch with the Medical Department of the United States Army realize the character of the men comprising this corps. Under the efficient direction of Surgeon General George H. Torney and his predecessors, together with the capable cooperation of their immediate assistants, the Army Medical Corps has been brought to a very high state of efficiency. I am certain that there are few men in civil practice who have anything like the broad and thorough training of the medical officer of the United States Army of today.

The work done by members of this corps in the past few years rivals that of any country of the world. It is only necessary to mention the investigations of Reed, Carroll,

Brigadier General Tasker H. Bliss, Commanding Department of the East, Chief Umpire, and Lieutenant W. H Myers, M. R. C., inspecting Third Field Artillery, U. S. A. in action

Army ambulances parked to the rear of the battlefield

Lazear, and Agramonte, in the discovery of the cause and prevention of yellow-fever; the work of Maus, Gorgas, Kean, Hoff, Fauntleroy, and others in stamping out yellow-fever, plague, smallpox, cholera, and other diseases from our tropical possessions; that of Ashford in connection with the hookworm disease in Porto Rico; Seyler's investigations on pellagra; the more recent, phenomenal results obtained by Russell in the production of antityphoid vaccine, which has practically eliminated this scourge from consideration when troops are in the field; the work of Chamberlain and his assistants with beriberi; and the near completion of the Panama Canal, which could not have been achieved except for the work of Gorgas and his staff.

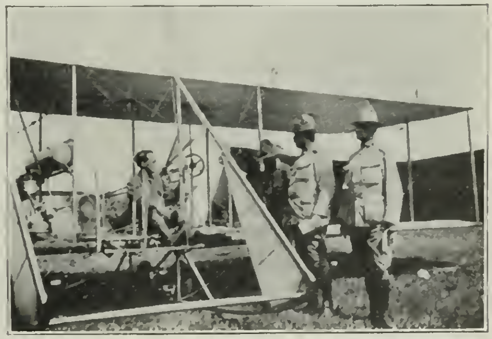
With the knowledge of these facts and of the unusual preparedness of our medical corps, the writer was anxious to observe the workings of the sanitary personnel during the ten days of the recent campaign.

At General Bliss's Headquarters

The headquarters of the chief umpire, Brigadier General Tasker H. Bliss, and his staff were located at Stratford, near Bridgeport, Connecticut. And the camp was a picture. Some forty acres of practically level ground had been selected as the site of the headquarters' camp, and on one side of this plain were the tents of General Bliss and his staff, as were also those of the foreign military observers and visitors. On the opposite side were the headquarters of the New York brigade, together with the camp of the United States Engineer Corps; in addition, details of colored regular cavalry in charge of the corral of mounts for the officers, and infantry companies for guard duty. Here also was stationed the Aviation Corps with three aeroplanes, and the Signal Corps with their field-telegraphs, telephone, and wireless outfits. It was indeed an imposing sight, and one which called forth favorable comment from all visitors.

Headquarters' tent of Brigadier General Tasker H. Bliss, U. S. A., Chief Umpire.

To each organization operating in the field were attached regular army officers, both line and medical, for the purpose of instruction and observation. These men were called umpires, and they reported each day to the chief umpire, General Bliss. From this headquarters camp the campaign was directed and the daily observations were conducted,



Colonels Maus and Stephenson interviewing Lieutenant B. D. Foulois, Aviation Corps, U. S. A.

necessitating trips of many miles for the observation of the various units. We spent each day accompanying either Colonel Maus or Colonel Stephenson on their tours of inspection of the opposing forces.

The various organizations composing the Red and the Blue armies were scattered over many miles of hilly territory with roads, good, indifferent, and bad. The camps were selected in advance by the Quartermaster Department, as it was necessary to obtain the consent of the owners before occupying their ground. These were not always advantageously located, but under the circumstances and with a limitation which is not present in actual warfare, the conditions in general were very good.

Camp-Sanitation Under Conditions of War

Considering the deplorable war in European Turkey, with its appalling list of killed and injured and the devastations from cholera, typhus, and other infectious diseases, one naturally asks the question, Are we prepared to face similar conditions should emergency arise?

With the history of past campaigns in mind, strict attention was paid to the sources of water supply and to the disposal of waste, excrement, and so on. However, it was not always possible to obtain a sufficient supply of good water.

Colonel William Stephenson, M. C. and Lieutenant Richard Slee, M. R. C.

One very practical device of the Army Medical Department is the socalled field-incinerator. The use of this incinerator I consider one of the greatest steps in solving problems of camp-sanitation. It is constructed by digging a pit about two feet deep, six or eight feet long, and about five or six feet wide. This pit then is filled in with stones to the level of the ground, and a rough stone wall is laid up on two sides and one end for a height of about two feet above the surface. The excavated soil is then banked up against the outside of the stones. In this impromptu fireplace, a fire of logs is kept burning all the time. Into this the kitchen garbage, tin cans, dish water, and other refuse are deposited at once and consumed, the liquid portions evaporating on the hot stones. The use of this incinerator does away with the necessity for storage in garbage-cans, or the like.

I have had unusual opportunities this year to witness the actual use of these incinerators, during the Connecticut maneuvers as well as more recently, in connection with the camp of the Third United States Field Artillery, which has been engaged in firing problems, a few miles from my home. The absence of flies and disagreeable sights and odors in camps where these incinerators are in use is in marked contrast to the old-time conditions. Destruction by fire of kitchen and camp refuse, burning over the picket lines at frequent intervals, and the oiling and care of latrines are certainly great steps in the preservation of health among the men. The regulations of the Army do not contain any provision for fuel for these incinerators beyond that allowed for usual company purposes. These rules should be changed so as to permit of an ample supply of wood, oil, and straw for the proper policing and care of the sanitary conditions of camps.

It would not do to close a sketch of this kind without criticism, and those which I wish to make are the views of an unofficial observer whose military training has been limited. The various deficiencies which can be mentioned appealed to me strongly as one who has had considerable experience in rural hygiene and sanitation.

The history of recent wars, and especially that which is now engaging the attention of the civilized world in Turkey, seems to foretell that such wars in the future are likely to be short, sharp, and decisive, with an appalling list of killed, wounded, and sick. Our reg-

Third United States Field Artillery, with infantry support, in final day's action

ular troops and many of the organized militia, being now protected from typhoid infection, can safely operate in territories where this condition previously caused continuous anxiety both to the medical department and to the line officers, and which resulted in appalling losses during the Spanish War.

It seemed to me during the campaign under consideration that the most annoying problem, and one which in actual warfare would give rise to the greatest discomfort and difficulty, was the question of transportation for the medical department.

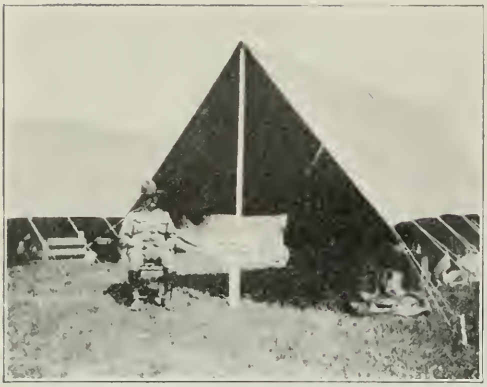
The Defective Transportation Service of Field-Hospitals

The field-hospitals engaged during the Connecticut maneuvers, so far as I was able to judge, were never up with their divisions. Their supply-trains were handicapped by insufficient horses and mules, and it was necessary to double-hitch on practically all of the hills, thus entailing much extra work and delay. During the maneuvers I never saw a field-hospital open. They seemed always on the move and always behind time, with wornout horses and men. This is not a criticism of the medical officers, but of the departments which were responsible for the failure in supplying the necessary teams. The regulations of the army should be amended so that the sanitary department has full control over its transportation. It should be supplied with an appropriate number of animals and drivers, who would be responsible only to the medical officer in command. As it is now, this department really has to take the leavings of the other departments, in many instances. Competent officers of the various branches of the Service have given the closest attention to this subject of transportation, but the fact remains that it is important to move the sanitary personnel and supplies with expediency, and this is seldom done.

All through the line of field equipment, it seems to me, the weight is unnecessarily heavy. Ambulances are unwieldy and bulky, and not suited for rough country; they should always be furnished with four mules or horses. Hospital- and field-chests and the various supplies are not packed as economically and furnished as regards weight as it would be possible to do. The smallest assortment of the necessary drugs, dressings, and instruments directly on the field are worth untold tons, unattainable, at the rear; and the medical officers, be they ever so willing and their corps-men perfectly trained, are handicapped.

Defective Discipline

The sanitary units of the many militia organizations showed a lack of discipline which seriously detracted from their usefulness. In active warfare this would soon be eliminated. In the larger cities, at least, hospital-corps men could be recruited from



Chief Surgeon, Colonel L. M. Maus and his quarters

among the students of the various medical colleges, with great improvement in the personnel of the organizations. It is difficult for many militia men, while in active service during maneuvers, to forget their relative social positions. This does not apply as much to the organizations that are recruited from the higher classes of society, and among the latter I found dis- cipline more constant and more rigidly observed than in those coming from the more humble walks of life.

During this campaign, I saw but one dressing-station established, and only two stretchers with bearers on the field. Orders were issued previous to the engagements for the tagging of a certain number of men in each company who should drop out presumably injured. Proper dressings were to be applied to the presumed injuries as designated on their tags, and they were to be handled, according to regulations—depending on the severity of their injuries—either at the dressing-stations or in hospitals in the rear. But in the excitement of the marches, skirmishes, and battles, these instructions in a majority of instances were overlooked, while many commanding officers wished to keep full ranks and objected to the removal of any of their men.

The loss of this necessary "material," so to speak, seriously interfered with bringing into execution the training of medical officers and hospital-corps men, to which they were entitled. Certainly it detracted from the value of their experiences.

Bands in maneuvers could well be dispensed with. Many of the musicians of the various militia are members of musical unions, engaged to come into the field simply to play their instruments, and they seriously objected to acting as stretcher-bearers during engagements, as required under the regulations. In fact, at times they actually engaged local transportation to carry themselves and their instruments while on the march, and in one instance an ambulance was filled with the instruments of the band.

Another serious defect was the fact that hundreds of men entered this campaign with improperly fitted, and in many instances, new and unbroken shoes. This disabled a great many men and interfered with their active participation in the work. Recent orders of the United States Army require company officers to see that their men are properly fitted with shoes, holding them strictly responsible for this fitting and for the condition of their men's feet. This should be made compulsory in the militia organizations as well.

We must not overlook the fact that to a large number of men engaged in these maneuvers this was their only vacation. They had to sacrifice and willingly forego other pleasures. Nevertheless, the free consumption of soft drinks, beer, pies, cakes, half-ripe fruit, and other indigestible things upset many of the men.

The Lack of Medical Men in Actual War

In case of war there would at once be a great dearth of medical officers. It would be necessary to call large numbers of men from civil practice; and herein lies an inherent weakness in our organization. I care not how well equipped a man may be in civil practice, he must be very adaptable to become a satisfactory medical officer without undergoing many months of serious training.

The duties of a medical officer are not only medical but largely executive. They are

Colonel William Stephenson, M. C., U. S. A., inspecting ambulances on the battlefield, Newton, Conn.

responsible for medical stores, hospitals, the sanitary corps, and the making out of reports covering a very broad field. A man from civil life finds himself tremendously handicapped. There is an idea in this country that it is only necessary to put a uniform on the American, and forthwith he becomes a fine soldier; but nothing is a greater fallacy.

Modern warfare and military problems have become very complex. It takes many months of constant training to produce a soldier, and it likewise requires a considerable period of training to produce a competent medical officer.

The Surgeon General and his staff are keenly alive to this condition and, with commendable foresight, have organized the Medical Reserve Corps of the United States Army, under Act of Congress. The majority of these men are very prominent in civil life. They are commissioned as first lieutenants, by the President, and hold themselves in readiness for active duty should emergency arise. In addition to those on the inactive list, a considerable number of reserve officers are on active duty with troops, supplying a deficiency in the medical corps which has existed for a number of years.

Applicants for appointment in the regular medical corps are commissioned as lieutenants of the reserve corps, until such time as they have received their preliminary training, been graduated from the army medical school in Washington, and prove their adaptability and fitness for their commissions as first lieutenants in the medical corps. Members of the Reserve Corps are kept in touch with the Surgeon General's Department, and receive from time to time such publications as are issued.

No provision, however, has been made, up to this time, for the actual training of the inactive list as army officers. It is to be hoped that in the near future some methods may be devised whereby those on this inactive list may in a measure be prepared to fill their destined positions, should it be necessary to call them to the colors.

Every medical man of military age in civil practice should consider it his patriotic duty to uphold by all means within his power the plans of the War Office, and especially in so far as they pertain to the medical corps, for the maintenance and formation of an efficient and trained reserve. With sufficient backing from the country at large, this can readily be accomplished, and should we be so unfortunate as at any time to be engaged in a mighty struggle, we shall not be held up to the civilized world as an armed mob.

In conclusion, I wish to express my keen appreciation of the attention and courtesies extended to me during the maneuvers by Brigadier General Tasker H. Bliss, United States Army, Commanding Department of East; Colonel L. M. Maus, Chief Surgeon; and Colonel Wm. Stephenson, Chief Sanitary Inspector. These officers, and many others, made it possible for me to receive and acquire knowledge that under no other circumstances could I have obtained, and the lessons therein learned, I am sure, will not soon be forgotten.

Medical Education and Therapeutics

Their Relative Status in Europe and America

By WILLIAM J. ROBINSON, M. D., New York City

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Author of "Sex Problems of Today," "Never-Told Tales," etc.

I TRUST nobody at all familiar with my writings will accuse me of chauvinism, will impute to me racial narrowness, in the slightest degree. It is my boast that I have succeeded in freeing myself from any trace of jingoism or narrow patriotism—and that I can honestly declare that the world is my country and that I judge a man not by his race, nationality, religion or ancestors, but by his character and his achievements.

One of the happiest signs of progress is the saner attitude which the nations are assuming towards one another. The overbearing contempt with which one nation looked down upon the other nation is beginning to disappear. It is beginning to be recognized that, while one member of the family of civilized nations may be inferior to another in some respects, it may be superior in others, and that in the long run things equalize themselves very well in different parts of the world.

Racial Narrowness

But, of course, chauvinism or jingoism is not entirely dead yet—not even in science, not even in medicine. In spite of our endeavors to make medicine truly international, narrow jealousies are still cropping up; the Germans are still apt to neglect what the French are doing, the French try to minimize the discoveries of the Germans, and most European workers are still apt to neglect what the French are doing, the French try to minimize the discoveries of the Germans, and most European workers are still apt to overlook or disregard American literature and American accomplishments.

I wish to assure my readers that in the remarks that I am about to make there is not a shadow of chauvinism and it is not my intention to extol one country above another. I know the points of superiority of Europe over America, and I know in what respects the United States is superior to Europe. They balance up pretty even. My remarks simply deal with the facts as I know them.

Is medical education in Europe superior to medical education in America? It is so easy to answer "Yes, of course!"—and be done with it. But to answer this question in the affirmative without any qualifications, would not be fair.

Altogether, in discussing the superiority of one medical-education system over another, or of one college over another, we must bear in mind an important point. We must bear in mind that *medicine is both a science and an art*, and that the art of curing or relieving patients does not necessarily depend upon the amount of purely theoretical studies which the student had absorbed in his college years.

Things We Need Not Know

There are many things which it is good to know, which it is interesting to know, but which it is not necessary to know in order to practice medicine successfully. It is good to know Greek so as to know the etymological derivation of the numerous terms that are used in medicine, it is good and interesting to know the biographies of the great leaders of medicine, but a knowledge of these things is not absolutely *necessary* in order to be a competent physician. Let us always differentiate between luxuries and necessities.

Although it may be heresy to say so, I will go even further, and say that the committing to memory of all the various facets and ridges, the origin and insertion of every little muscle, the numerous facts of commercial chemistry, the vast mass of minute details in histology and pathology are not absolutely necessary for the successful practice of medicine. The knowledge concerning Frauenhofer's lines will not help us in curing convulsions in a baby; the knowledge of the process of extracting silver from the ore on a commercial scale (an actual examination question in one of our large eastern medical colleges) will not help us to deal with a breech presentation or puerperal eclampsia; knowing by heart the names of all the bacteria does not in the very least help us to treat an ordinary case of dyspepsia or migraine; and an understanding of agglutinins, precipitins, anaphylaxis, and so on, does not help us in treating pneumonia or pleurisy or heart disease.

I have no hesitation in saying that I have known graduates of some of the foremost colleges here and in Europe who were not as competent to treat the ordinary human ailments and diseases, which constitute ninety percent of our daily practice, as were graduates of more modest and much smaller medical colleges.

The domain of medicine is becoming so large, that it is now impossible for one man to embrace all the ramifications of it. And I prophesy that the time is coming when medicine will be divided into two great divisions—research or scientific medicine, and practical medicine. And upon entering a medical college a man will make up his mind and will declare what division of medicine he wishes to pursue. Up to a certain point the studies will be the same, but beyond that point the studies of the research worker will differ materially from those of the student whose intentions are to become a *practicing* physician or surgeon.

Such division of labor will result in greater benefits both to the science of medicine and the practice of it. Not everybody can be an investigator, a discoverer, but everybody can apply in his practice the results of other people's discoveries.

This rather lengthy, but important, introduction is necessary to a fair appreciation of the remarks that follow.

Europe Leads only in the Theoretical Branches

Medical education in Europe is superior to our education in all theoretical branches; it is not superior in the practical branches. Leaving out of consideration a few worthless and disgraceful colleges—which are rapidly disappearing and which should never have been permitted to exist—we are turning out graduates who in the *practice* of *medicine* and *surgery* can compare favorably with any European graduate. Our graduates may not be so cultured, their knowledge of Latin and Greek may be meager or nil, but, as stated before, these are the luxuries, the furbelows of medicine, and not the necessities.

In one respect, only is European medical education superior to ours: they have uniformity, which we have not. The Europeans have a certain standard which we do not possess. Throughout the twenty-four units found in Germany, throughout Austria, Hungary, Switzerland, the course is so uniform that graduation in one country is fully recognized by the others; the preliminary entrance requirements are the same, and the curriculum in the colleges is of the same standing. Many German students attend five or six universities before they graduate. They stay half a year or a year in a university, get their full credit, and go further. While, in our country, we have universities ranging from the highest class, like the Johns Hopkins, down to the lowest class, like—well, we will not mention names.

A good deal is made of the length of the medical course in Europe. True, the medical course in most European countries lasts ten semesters, or five years. In some countries it lasts longer, as in Sweden, where the medical course lasts nine years. But I have lived with the European medical students and I assert positively that in the sum total the European medical student spends less time on his medical studies than does the American student.

Class Attendance Not Obligatory in Europe

The greater part of the first two years the European student devotes chiefly to Venus, Bacchus, and Gambrinus, paying but scant attention to Minerva and Aesculapius. Practically no account is kept of the attendance, like in our colleges; there are no quizzes, as we have them; and the student is free to attend or not. Towards the end of the semester he begins to cram—and we know what knowledge acquired by cramming and by quiz compends amounts to. Nor are there regular examinations at the end of each semester.

In short, the European student is kept much less under control than is ours, and unfortunately, with certain exceptions, the student who is not forced to attend regularly will not do it; if he is not forced to be always ready to answer quizzes, he will not be ready. He will study principally before his "exams." And that is just what the European students does. He works particularly hard in his last year or last two years. And when he gets through, while his knowledge of pathology and bacteriology is superior to that of the American student, his knowledge of therapeutics, of practical medicine, is *not*.

With all due regard to the intelligence of certain lay investigators, we must say that a layman is not quite competent to judge of the fitness or unfitness of a medical college. The layman, be he ever so educated, is too apt to think that *fitness* and *bigness* are synonymous; he is too apt to think that big buildings, and marble halls, and big laboratories needs must make good physicians.

We, who know better, know that a small college, in which the professors come in close personal contact with the students, where the instruction is given in small sections, often turns out better and more competent physicians than do the large overcrowded colleges, where the professors and instructors do not know the students and their special needs and where the instruction is cold and impersonal.

Not everything is gold that glitters.

Therapeutics in Europe and America

As to the status of therapeutics in Europe and America, I am glad to be able to state that no comparisons are necessary, for the status of therapeutics is now practically the same in all civilized countries. The wide-awake medical journals at once publish the news of any new therapuetic measure or remedy, and wide-awake physicians in all countries of the civilized world at once begin to apply it in their practice. And even before a remedy is announced to the world, it is experimented with in the various laboratories and hospitals, in Berlin, Vienna, St. Petersburg, Rome, Stockholm, Helsingfors, New York, Bombay, Sidney, Tokio.

The time when a professor would reply to his adjuncts: "*Das ist doch alles eines*" (that is all the same), when they would ask him what to do with a patient; the time when the diagnosis and the autopsy were everything and the cure of the patient nothing, is happily gone, never to return. And the period of German shotgun polypharmacy, of crude herbs, and galenicals is also passing away.

In Germany, as elsewhere, it is being recognized that progress in therapeutics is possible only with definite principles—principles of a definite chemical constitution. Whether the principle is an alkaloid, a glucoside, a neutral principle, an organic or an inorganic salt, a new synthetic compound, it must be something definite, of constant composition. Otherwise all the results of our experiments are uncertain, vitiated. It does not mean that at the bedside several principles may not be used simultaneously or mixed together. But it does mean that, in order to determine the pharmacologic and therapeutic value of a principle, it must be used by itself and in the pure, isolated state.

And in conclusion I will say, and say it not in any chauvinistic spirit, but deliberately and conscientiously, that in therapeutics, in *practical* medicine and surgery we stand at least just as high as any country in the world, and it is unnecessary and foolish for anybody to go to Europe to be treated for any conceivable disease.

There are as good physicians and surgeons in the United States as there are anywhere in the world.

And, speaking of the branches I am interested in particularly, I will say that I visited practically every important genitourinary and dermatologic clinic in Europe—and I shall do so every summer—and I have noticed that the spirochetæ of Schaudinn do not disappear from the patients' bodies any quicker than they do here, and the gonococcus of Neisser is just as resistant and just as impudent on the shores of the Spree, the Danube and the Seine as it is on the shores of the Hudson or of Lake Michigan.

Occipitoposterior Positions

With a Simple Method for Correcting Them

By WILLIAM RITTENHOUSE, M. D., Chicago, Illinois

EDITORIAL NOTE.—We take pleasure in announcing that this interesting article will be followed by a number of others upon allied topics. Professor Rittenhouse has promised us a series upon the various trouble-making and insomnia-producing obstetrical complications which so often make the life of the general practitioner a burden. Every physician who reads this paper will surely wish to peruse those to follow.

IN looking back over the more than a quarter of a century of my obstetric work, the most vivid impression on my memory is the recollection of the difficulties I encountered and of the anxieties I endured in the first ten years of that work; and now, when comparing notes with many of my fellow practitioners, I am forced to the conclusion that their experience has been, in the main, similar to my own. Constantly do I hear from general practitioners the assertion that they "hate" obstetrics and wish they could practise without doing that kind of work. Twenty years ago my attitude was exactly the same; many a time I went home from a difficult or unsatisfactory case feeling a profound disgust with the whole thing.

This widespread dissatisfaction with obstetrics and obstetrical results is due, in my opinion, to inadequate and impractical teaching. The student leaves college with a confused and undigested mass of information. His memory has been well stuffed with facts, but his judgment has been sadly neglected. Feeling his weakness, the neophyte tries to fortify himself with rules, and, in the ensuing years when confronted with a difficulty, he too often appeals to his memory instead of to his judgment. He is too apt to ask himself, "What was I taught about this?" instead of asking, "What is the common-sense thing to do here?"

Obstetrics, more than any other branch of the medical sciences, has been in bondage to tradition. We have paid too much homage to authority. The man who has had the courage to think for himself has too often been met with the cry of "meddlesome midwifery." As a result, many of our best men have been discouraged from that original thinking and original action which alone can make the practice of any art a source of satisfaction.

These reflections have been largely suggested to my mind by my observation of the management of that obstetric condition which forms the subject of this article, and by my investigation of the teaching (or lack of teaching) of the current textbooks on the subject.

The Troublesome Occipitoposterior Position

More than seventy-five percent of my consultation-practice consists of cases where occipitoposterior positions have proven too much for the family physician. Finding the delivery unreasonably delayed, he has applied forceps, but failed in his efforts, because delivery was impossible without rotation, and rotation was impossible in the grip of the forceps. And, without casting any reflection upon that long-suffering individual, the family physician, truth compels me to say that I find an appalling number of instances where the position has not been diagnosed; where the mother has reached a dangerous degree of exhaustion from "leaving it to nature"; where she has suffered serious mutilation from unsuccessful attempts at delivery; or where the child's life has been sacrificed by the same attempts. It is not uncommon to find a doctor utterly exhausted from pulling on the forceps, trying to do the impossible; and sometimes a second man has spent his strength in the same hopeless effort.

In most of these cases, if early recognized and corrected, delivery would be comparatively easy, and with the happiest results both to mother and child—to say nothing of the doctor.

Textbook Instruction Is Deficient

In looking over a dozen textbooks to see what they have to offer on this subject, I am driven to the conclusion that the family physician who turns to them for bread will find that most of them offer him only a stone of most indigestible quality. All these books state that the head in an occipitoposterior position should rotate to the symphysis pubis in its descent; but for cases where it fails to do so their recommendations are various and some of them unpractical and even dangerous. A few of the authors make suggestions that are simple enough to be practicable. Some of them almost ignore the subject. Quite a number recommend procedures that would certainly be dangerous in any hands except those of skilled experts, and I doubt whether they would be safe even in theirs.

In all but a very few of these cases of occipitoposterior position delivery can be effected without resorting to measures that are complicated, difficult or dangerous. They can be corrected by means so simple and obvious that they can be employed by the family physician with confidence and safety. What is more obvious, indeed, than the conclusion that, if a faulty position delays or prevents delivery, the logical thing to do is to change the position to a more natural one? And this is the remedy in a nutshell:

When assistance becomes necessary, anesthetize the patient, introduce the hand into the birth-canal, lift the head and rotate the occiput to the front (a half circle always; never a quarter only). Then stop the anesthetic so as to get the benefit of the labor-pains. If these are strong, the delivery may be completed without further help. If not, the forceps may be used at any stage desired.

Those who have not tried this method of early manual rotation often express a fear that it must be very difficult. On the contrary, it is the easiest of all intrauterine manipulations; much easier than reaching up and bringing down the feet in podalic version; much easier than getting down arms that have become extended alongside of the head in a breech-delivery; and, what is more to the point, it is the easiest and safest way of correcting an occipitoposterior position.

Let us now consider the subject systematically and in detail.

Diagnosing an Occipitoposterior Position

The first thing, of course, is to establish an accurate diagnosis, by means of some or all of the following methods:

1. Digital palpation of the sutures and fontanelles.
2. Location of the fetal heart-beat.
3. Manual palpation of the fetus through the abdominal walls.
4. Digital palpation of an ear *per vaginam*.

In addition to these tests, we must not overlook a symptom which, while it is not exactly a means of diagnosis, yet has considerable diagnostic value, inasmuch as its presence should always make us suspect a posterior position.

I refer to the frequently observed fact that in occipitoposterior positions, unless the head is small, there comes a time during the first stage of labor when progress practically ceases, even though the pains continue. This is usually when dilatation of the os is from one-half to three-fourths complete. A considerably larger head can be born without assistance if it lies occipitoanteriorly than if it lies occipitoposteriorly. In fact, only the small heads starting with the occiput behind will spontaneously rotate to the front when they reach the pelvic floor. The large ones will come to a standstill before the first stage is over. Therefore, when this occurs it is proper to suspect a posterior occiput, if the diagnosis has not already been made.

Before any operative procedures are undertaken, the diagnosis must, of course, be absolutely certain; and, of the means mentioned above, all except the last are subject to error. Test number 1 in the list is conclusive if the sutures and fontanelles can be felt; but some heads are so smooth that even the expert is left in doubt. Number 2 is fairly reliable in L. O. A. position, but in the other three positions it is inconclusive. Number 3 is of little value in dealing with very thick abdominal walls or with a tense uterus containing much water. But palpating an ear leaves no doubt whatever and can be done when the patient is anesthetized for the purpose of correcting the position. Or even anesthetizing the patient for purposes of diagnosis is just as legitimate in obstetrics as in surgery.

Having diagnosed an occipitoposterior position, no interference is called for as long long as the case is making reasonable progress. If spontaneous rotation and delivery will take place, so much the better. But, if descent and dilatation have come to a standstill and the patient shows evidence of exhaustion, it is time to interfere. And right here occurs the temptation to the unexperienced to put on the forceps and pull until he is exhausted, in a vain attempt to do the impossible. Delivery is impossible without rotation, and the head cannot rotate in the grasp of the forceps.

How to Correct the Malposition When This Position is Present

After the patient is fully anesthetized, the hand should be introduced into the vagina (slowly, so as not to lacerate the perineum). An exact diagnosis should be made by palpating an ear, so as to ascertain the degree of obliquity. The head should now be lifted up and rotated a half circle, bringing the occiput to the front—that is, an R. O. P. should be converted into an L. O. A., while an L. O. P. should be converted into an R. O. A. I advise the half-circle rotation, because when I have tried rotating only a quarter circle I have found a tendency to spring back to the original position. This is, no doubt, due to the molding of the mother's soft parts.

In grasping the head to rotate it, the operator's fingers should project past it far enough to touch a shoulder, so that the body may be rotated with the head. I find that the body rotates so easily that possibly this precaution may be unnecessary; but I always observe it, for fear that without it the neck might be twisted to a dangerous degree.

Another precaution to be observed is, that, if a loop of the cord or an arm should come down, the prolapsed part should be restored before allowing the head to settle down into the brim.

The position having been converted into an occipitoanterior, the operator may now choose whether he will withdraw the anesthetic and give nature a chance to complete the labor, or whether he will at once apply the forceps and deliver. In deciding this point, it is well to be guided largely by the patient's condition before the anesthetic was given. If the contractions were vigorous and the patient was not unduly exhausted, nature may be given another chance; but as a rule I believe it is wiser to avoid further delay.

I believe the profession is beginning to recognize more and more the unwisdom of permitting extreme exhaustion of the mother if it can be avoided. Undue exhaustion carries with it greater dangers than the slight risks of early assistance.

Other Methods of Procedure

The only other method of treating an occipitoposterior position that seems to me justifiable is to endeavor to secure rotation by repeated readjustment of the forceps. The forceps is adjusted slightly askew; then moderate traction is made, with a twist in the direction in which rotation is desired. When enough rotation is accomplished to bring the instrument straight or a little beyond that, an assistant should crowd the uterus and its contents downward, to prevent losing what we have gained, while the forceps is withdrawn and again applied a little askew. Then the traction and twisting are repeated. Quite a number of readjustments may be necessary to bring the occiput to the front.

Some years ago, before I had learned how easy it is to do the manual rotation described above, I resorted to this method a number of times; sometimes with success, and sometimes with unsatisfactory results, occasionally failing entirely, and often injuring the child because such great force had to be exerted.

One writer advises applying the forceps and twisting the head around until the front of the forceps is toward the mother's sacrum. How he can reconcile such advice with the anatomy of the pelvis is to me incomprehensible. The extreme curvature of the pelvic canal and the corresponding curvature of the forceps blades seem to render such a procedure certain to inflict injury upon the mother.

It has been objected that the introduction of the hand is liable to carry infection, and that, therefore, careless operators might do harm; but the same objection could be made to every form of obstetrical and surgical procedure. I am no more afraid to introduce a clean hand into the uterus than I am to put it into the abdomen in a laparatomy or into any surgical wound. The man who does not properly sterilize his hands is, of course, unfit to do intrauterine manipulations, but he is equally unfit to do obstetrics at all. The world cannot stand still because there are always a few who do not keep step with the march of progress.

Another objection has been raised, to the effect that, if the head were down low in the pelvis, it would be difficult or impossible to lift it up above the brim.

The answer to this is twofold. In the first place, the cases in which the head descends are not the ones in which help is required. As a rule, if the head descends, it will rotate. It is when the head remains high up until the mother is exhausted that we have to offer assistance. In the second place, even when the head had been dragged down low in the pelvis by means of the forceps, in a vain attempt to deliver without rotation, I have always been able to lift it up if the patient was well anesthetized and placed in the Sims position. True impaction is rare.

In a few cases where the occiput had rotated to the hollow of the sacrum, I had a little difficulty in getting the head up above the brim, but patient effort was always successful. In this case a twist must be added to the upward pressure; in other words, the head must be sent back the way it came. Lifting it directly upwards without any rotary movement necessarily would be unsuccessful because of the promontory of the sacrum.

Conclusion

That this subject is one of great importance, is shown by the fact that, according to statistics, about twenty-three percent of all cases are occipitoposterior; in other words, a little more than one case in every five. I am strongly of the opinion that in a large majority of the cases where labor lasts longer than twenty-four hours the cause is an occipitoposterior position.

For a number of years I have employed the method here described on an average of about once a month. It has greatly reduced the average length of labor, the average force required in forceps delivery, and the average of injuries inflicted upon both mother and child. In consequence, I can say that nothing has done so much to make the practice of obstetrics a source of satisfaction to me as has the adoption of manual rotation for occipitoposterior positions.

The Production of Diphtheria Antitoxin

By **ARTHUR M. SLEE**, Swiftwater, Pennsylvania
Associate Director, Slee Laboratories

EDITORIAL NOTE.—Every physician knows (or should know) when diphtheria antitoxin is indicated, when it should be administered, and how—but how many really understand the process of manufacture of this remarkable remedy? A perusal of Mr. Slee's paper will throw light on the problems which the manufacturer has to overcome and show the difficulties involved in the production of a remedy of uniformly high character—difficulties that are by no means slight.

TODAY, as we all know, the therapeutic value of diphtheria antitoxin is thoroughly established and is now almost universally used in the treatment of diphtheria. Laboratories all over the civilized world turn out millions of doses every year. Yet, in spite of its popularity, I have often been surprised to observe how little is really known about this great remedy except by those actually employed in its production. Because of this fact, I feel that a few words regarding the production of diphtheria antitoxin—which now is a tremendous industry—may prove instructive as well as interesting to many readers of CLINICAL MEDICINE

Diphtheria by no means is a modern disease. Referring to Park's "History" we find that its occurrence can be traced back even to the early Greeks, who were of the opinion that the malady was brought to them from Egypt. From this time on down through the centuries we hear of its ravages in many of the countries of Europe, and it was not long in making its appearance on the

American continent after its discovery. During the latter part of the 18th century there was much discussion as to whether it was identical with croup. The name "diphtheria" was finally applied to it by Bretonneau in 1821. Bretonneau made a very extensive study of the disease, and his clinical observations are exceedingly correct and of great importance.

It was not until 1883, however, that the true cause, the bacillus diphtheriæ, was brought to light by Klebs, who definitely demonstrated its constant occurrence in the throats of those suffering from true diphtheria. This thread was taken up by Loeffler, who, after a year of patient study, isolated the organism in its pure culture and, upon inoculating the mucous membrane of the throats of various susceptible animals, obtained symptoms identical with those of true diphtheria.

Now, surely, any organism which is found only in the throat, and yet produces such marked changes in the heart, liver, spleen, and so on, must in the course of its growth form some extremely toxic by-product. Roux and others finally partially isolated this toxin. Then, in 1892, Behring succeeded in immunizing animals to diphtheria by means of injecting this toxin in increasing amounts. He then proved that the blood-serum of animals or persons thus immunized had the power of neutralizing the toxin, and that, if injected subcutaneously at an early stage of the disease, in a majority of cases it effected a cure. After this brief historical survey we may proceed with our subject.

Why the Serum is Obtained From the Horse

The horse was selected as the animal from which to obtain antitoxin, first, because of its natural immunity to diphtheria, and, secondly by virtue of its size, a relatively large amount of serum may be drawn from it. Unfortunately, the idea that animals utilized for this purpose are subjected to a great deal of pain and suffering seems to be rather prevalent. However, this is an entirely erroneous notion, and is held only by those who know little or nothing of the work. Absolutely the only pain inflicted is the quick thrust of a rather large-sized hypodermic needle, which is not worse than that caused by a sharp cut of the whip or a thrust of the spur.

The animals must, necessarily, receive good care. It is essential that their stables be light, clean, and airy, and their food clean and wholesome. Plenty of fresh water is another great asset in the production of serum. Horses that have free access to fresh, running water, so that they may drink whenever so inclined, seem to remain in better physical condition during the period in which they are under treatment and to produce a better grade of serum. So we see that antitoxin horses receive really better care than the majority of their fellows that are doing ordinary work. Of course, these animals are not called upon to do any work whatever. Needless to say, only strong, absolutely healthy horses are chosen; also, they are always kept under clinical observation for a considerable period before the treatment is begun.

Now, we know that the toxin of the diphtheria bacillus is required to produce the antitoxin, and that it may be obtained only by cultivating this bacillus on a special veal bouillon, where in its development and multiplication it produces the toxin. This is one of the most difficult phases of the work, for conditions must be just right, else the microorganism will not produce its toxin to any great extent.

The broth being placed in Erlenmeyer flasks, giving considerable growing surfaces, it is inoculated with a virulent culture of the bacillus diphtheriæ, and then incubated for a period of a week at a constant temperature of 33° to 34° C. When removed from the incubator, there may be seen a heavy pellicle or membrane over the surface of the culture-medium—the typical growth of the bacillus diphtheriæ. The incubation period ended, the organisms are killed with carbolic acid, whereupon, the toxin produced being filterable, their bodies may be eliminated from the bouillon by filtering through a Berkfeld filter. This carefully filtered bouillon contains the toxin only, and no bacteria whatever.

The strength of this poison is reckoned in M. L. D.'s (minimum lethal dose) for guinea-pigs; one M. L. D. representing the amount necessary to kill one 250-Gram guinea-pig within a period of ninety-six hours. It will be observed that the potency of this toxin is extremely high, very little of it ever being used that does not contain at least 100 M. L. D.'s per cubic centimeter. Toxin employed in the treatment of horses runs anywhere from 300 to 800 M. L. D.'s per Cc. It has even, sometimes, been obtained of the strength of 1000 M. L. D.'s per Cc., but this is rather unusual.

How the Horse Is Immunized

In initiating the immunizing treatment of the horse, a first dose of about 1000 units of diphtheria *anti*-toxin is injected subcutaneously, this being followed by a relatively small dose of the specific toxin. After several days when the reaction and fever have abated, a still larger dose of toxin is injected; and the treatment is continued in this manner for at least two months. At the end of this period the horse in all probability will be conditioned to produce a considerable amount of antitoxin, although in a large percentage only a very small quantity is yielded; such horses proving utterly worthless for this purpose. A well-adapted horse will show from 300 to 900 units per Cc.

When the animal under treatment shows a sufficient number of units per Cc. to warrant bleeding, its blood is drawn off through a cannula inserted into the jugular vein. By means of a rubber tube attached to the cannula the fluid is conducted into bottles containing a solution of sodium citrate, which prevents clotting. As much as 12 liters at a time may be drawn without weakening a horse to any extent.

The bottles containing the blood are allowed to stand for about twenty-four hours, during which time the red and the white cells and all floating material, because of slightly greater specific gravity, gradually settle to the bottom, leaving the plasma with its contained antitoxic bodies at the top, whence they may be decanted off.

The Refining and Concentrating of the Serum

In the early days of antitoxin therapy the crude plasma, containing all of the irritating and rash-producing properties of horse-serum was injected. A comparatively large volume was required for a dose, as at that time it was not often that a serum containing as high as 500 units per cubic centimeter was procured from a horse. Even at this rate 2 Cc. of fluid often was required for an ordinary immunizing dose, while for a curative dose often as much as 20 Cc. or even more, was necessary. Hence, the injection of antitoxic serum was really nothing less than heroic treatment.

No great improvement was made upon this state of affairs until the year 1904, when Dr. Gibson, of the New York Department of Health, announced his method of concentrating and refining the antitoxic serum by precipitating out the antitoxic globulin. As a result of his experiments, he was able to remove from the serum a large percentage of the non-antitoxic bodies. Hence, the volume being greatly diminished and most of the irritating properties removed, the severity of the injection was greatly reduced. The method of Gibson has since been markedly improved upon by Dr. Banzhaf, of the same laboratories.

Probably the most widely used method of refining and concentrating antitoxic plasma is the following modification of the Gibson method:

The plasma, after having been drawn off from the red and white cells, is heated at a constant temperature of 56° C. for fifteen hours and then diluted with one-third of its volume of water. By means of ammonium sulphate, the globulin, antitoxic and non-antitoxic, is precipitated. On filtering through paper, this precipitate is obtained separately from the albumin and various other soluble constituents. It is then brought into solution again by means of sodium chloride, when the antitoxic globulin may be precipitated with dilute acetic acid. After another filtration, the isolated antitoxic globulin is obtained as a precipitate on the papers.

The filter-papers with this precipitate upon them are placed in a press in pairs, face to face with an intervening layer of absorbing paper between each pair, and the water, with a large percentage of all soluble material, is pressed out. The pressing completed, all salts are removed by dialysis. This antitoxic globulin solution is then brought up to the normal salt constituency of the blood.

After dialysis, the antitoxin is placed on ice for at least two weeks, when it is filtered through paper pulp, to remove whatever insoluble matter it may contain, and then through a Berkfeld clay filter, to eliminate all bacteria. We now have the antitoxic globulin itself, almost entirely free from extraneous matter.

The dread of rashes, serum-sickness, and so on, is gone forever. Nor is this the only improvement, for the volume (now tremendously reduced) is of greatest importance. Where previously 10 Cc. or more was required for a dose of 5000 units, today the physician needs to inject only 2 Cc., or even less; while the danger from ill effects is reduced to practically nothing.

The standard antitoxic unit is that amount which is necessary to neutralize 100 fatal doses of standard toxin.

Carefully standardized toxin and antitoxin are now supplied for test purposes by the Laboratories of the Public Health and Marine Hospital Service in Washington. This method of having standard toxin to test from was conceived by Ehrlich, and it happily assures a uniformity among the products of the various laboratories. The want of some such method of standardization for our bactericidal serums, such as antimeningococcus or antistreptococcus serum, is keenly felt.

Thus we see that one little dose of antitoxin represents considerable work and expense. At the very least, four months of time is required from the beginning of the treatment of the horse until the finished product is ready for the physician's hands. But, our good layman does not realize all of this, so he protests with great vigor when he has to pay out five or ten dollars to save his child from the inroads of the bacillus diphtheriæ.

The Therapeutic Virtues of Sparteine Sulphate

A True Heart Tonic, a Regulator of Heart Action, a Nonirritating Diuretic Suitable for Administration Hypodermatically as well as by Mouth. No Untoward By- or After-Effects

By GEORGE E. PETTEY, M. D., Memphis, Tennessee

EDITORIAL NOTE.—The following report of the author's clinical study of sparteine was prepared for his work on "The Narcotic-Drug Disease, and Its Treatment" (now in press), but with some slight alterations, is here presented to the readers of CLINICAL MEDICINE, *with the hope that this remedy may fill a vacant place in their armamentarium as it has in that of the author. It is confidently believed that, when the profession becomes fully acquainted with the physiological effects and remedial value of this drug, it will be esteemed by practitioners as one of the few indispensable remedies.*

THERAPEUTIC nihilism, so widespread at present, is largely due to lack of definite knowledge of the effects of remedial agents, coupled with the use of the drugs in the form of galenic and other unreliable preparations. While these factors have been the most fruitful cause of skepticism as to the value of internally administered remedies, at least one exception to that rule exists. I refer to the vegetable drug scoparius, or broom; even when its active principle, the definite, dependable alkaloid sparteine has been employed the results have been more or less disappointing. The reason for this is that it has been given in far too small amounts to produce the therapeutic effects of the remedy.

Sparteine Unappreciated Because Not Given to Effect

In looking up the literature on this subject, the author has found the widest difference of opinion among men of equal standing in the profession and who doubtless are equally accurate in their observation of the effects of remedies. However, in the author's judgment, this difference in their statements as to the action of sparteine may be accounted for by the difference in their views as to the proper dosage of the remedy, and this misconception as to the size of the dose no doubt is the reason why this remedy is not now in general use. It is found that most authors give the dose of sparteine as from 1-5 to 1-3 grain, and the U. S. Pharmacopeia (last edition) puts it as 1-5 of a grain; but the makers of hypodermic tablets have not, until recently, offered tablets of more than 1-10 of a grain, few of them having listed a tablet containing more than 1-30 of a grain.

These are the amounts in which this alkaloid mostly has been tried; and this is why—as already set forth—many practical men, after giving it a trial in this low dosage and not obtaining the desired effects, have rejected it as of no value. Their results would have been otherwise had the dosage been appropriately augmented. The fault was not with the remedy, but with the size and frequency of the dose.

Bartholow and Ringer are the only ones of all the authors examined who state the dosage of sparteine at anything like the proper quantity, they putting it at from 1-2 to 2 grains. It would be more nearly correct to say, 1 1-2 to 2 grains; in fact, 2 grains by the stomach is as small a dose as can be depended upon. Given hypodermatically, 1 1-2 grains is a fairly effective dose; but there is no reason why this should not be 2 grains.

Sparteine is nontoxic when administered in any reasonable amount. It is certain and definite in its action, and, in the author's experience, above all other remedies deserves to be classed as a heart tonic—a heart regulator. It does just what we want done when we administer a heart tonic, without doing those things we do not want.

The Action of Sparteine and Digitalis and Veratrum Compared

It combines the desirable properties of digitalis and veratrum, without their undesirable ones; and, since physicians are so familiar with these two remedies, the author will undertake to compare the effects of sparteine with those of the drugs named.

Digitalis is a true heart tonic so far as its influence upon the heart-muscle itself is concerned; but, while adding tone to that organ, it lessens the frequency and increases the force of its action, it also powerfully contracts the entire arterial capillary system and greatly raises blood pressure, thus increasing the resistance to the onward flow of the blood current. So marked is this, that it not improbably adds to the work of the heart as much as it increases its strength; and, hence, as a heart tonic is almost useless.

Veratrum, on the other hand, reduces the force and frequency of the heart's action and at the same time dilates the arterial capillaries, thus reducing blood pressure and opening up the way for the onward flow of the blood current; but this action is attended by great depression, nausea, and other undesirable effects.

Now, if we could develop the effects of digitalis on the heart-muscle and simultaneously the effects of veratrum on the arterial system, but without any of the other, objectionable, effects of these two remedies, we should have an ideal heart tonic. And in sparteine we have a remedy that does that very thing. It adds to the tone of the heart-muscle as greatly as does digitalis; it also reduces the frequency and increases the force of the heart action. But instead of contracting the arterial capillaries and raising blood pressure, as digitalis does, it has directly the opposite effects. While it does not dilate the arterial capillaries so greatly as veratrum does, it does so to a marked degree, but without any of the unpleasant effects peculiar to the latter drug.

Especially marked are its effects upon the arterial capillaries, in this respect resembling belladonna; however, its influence is not confined to the superficial capillaries, but extends to the deeper capillaries as well. Under its influence the pulse is soft, full, and compressible, instead of hard and unyielding, as from digitalis.

It is prompt in action. Its effects are well established within an hour. Indeed, if given hypodermatically, the effects are quite noticeable within half an hour or less, being in that respect very unlike digitalis; but in point of duration of effect, it is again like digitalis, the effects lasting from six to twelve hours. In fact, it has almost the promptness of strychnine, with the sustained action of digitalis.

As an agent for correcting irregularities of the heart action it should be given first place. It corrects these with great promptness, and its sustained effect makes its frequently repeated administration unnecessary. An initial dose of 2 grains should be given, to be repeated in two or three hours. After that it need not be administered oftener than every four to six hours.

Sparteine is a true and reliable heart tonic, an excellent nonirritating diuretic, and it is entirely free from untoward or objectionable effects.

The Heart-Muscle Is Toned by Sparteine

Sparteine lessens the frequency and increases the force of the heart-beat, but does not raise blood pressure. This is made possible by the fact that it is also a vasodilator, by virtue of which it dilates the arterial capillaries to such a degree as to enable the arterial system to receive and accommodate the increased volume of blood propelled by the more vigorous action of the heart without increasing arterial tension.

It adds tone to the heart-muscles and causes it to propel a larger volume of blood at each impulse, while by its vasodilator action it opens up the way for the passage of this increased volume of blood, thus increasing the propelling force and lessening the resistance. This makes it the ideal heart tonic, and, in the experience of the author, it is the only remedy, or combination of remedies, that meets this indication perfectly. An added advantage is that it is taken up readily from the stomach. Its action on the stomach is that of a bitter tonic. It has no tendency to cause nausea or other unpleasant symptoms.

The Blood Pressure Is Diminished

There has been quite a conflict among writers as to the effect of sparteine on the blood pressure. Some say that it raises the pressure, others claim that it decreases the same. But this disagreement is quite in conformity with their conflicting statement as to the drug's general effects.

In the literature on the subject the author has found that those who have given sparteine in doses of about 2 grains have been uniformly pleased with its action and have given it the highest praise, both as a heart tonic and a diuretic; while, on the other hand, those administering it in fractions of a grain have condemned it as inert or of little value and made conflicting statements with reference to its effects on blood pressure.

The author recently has made a careful study of this particular phase and is able to present herewith instrumental tests showing uniformly a slight decrease of blood pressure in every instance where as much as 2 grains of the drug was given.

The fall of pressure begins within an hour from the time of taking a dose, and the pressure reaches its minimum about the end of the sixth hour; and this reduced pressure continues for from four to six hours after the lowest point is attained. A uniform fall of from 10 to 15 mm. Hg has been observed in every case thus far observed by the author and not once has there been the slightest degree of rise of blood pressure.

The effect on the pulse was noticeable earlier than the instrument would show the change in blood pressure. A pulse which is small and deficient in volume fills out to a well-rounded pulse in from thirty to sixty minutes after the administration of the full dose of sparteine, and this effect is sustained for several hours. It begins to wane by the end of the fifth or sixth hour; but the blood pressure shows no indication of rising for several hours afterward. The accompanying spygmographic tracings show its regulating action on the heart.

Sometimes the Pulse Is Accelerated

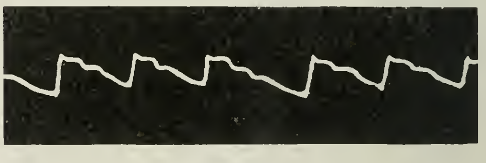
In this connection the author wishes to call attention to an element in the action of sparteine not heretofore noted, and that is, that, while the usual, or ordinary, effect of the remedy is to slow the heart action, in certain conditions it increases the rate. The sphygmographic tracings and pulse records in the first three cases which follow illustrate this phase of its action, as also its properties as a heart tonic.

In the first two cases there was irregular heart action, the irregularity consisting in an extra-prolonged diastole occurring at regular but frequent intervals as if the heart-muscle were tired and was seeking to rest for a fraction of time longer than normal; and then regular contractions would occur again, to be followed in turn by another prolonged diastole—and so on.

In each instance the patient was given 2 grains of sparteine, with the result that a reliable degree of tone was imparted to the heart-muscle, and the time formerly occupied by the prolonged diastole was filled by regular contractions; and this resulted in an increased pulse-rate as well as regular and uniform action. This increase in one case was 4 and in the other 6 beats per minute.

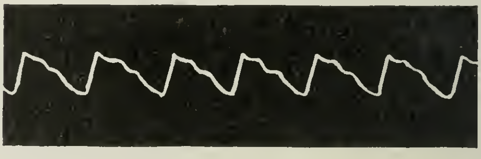
In the third case there was very slow and sluggish heart action, conveying the impression of a tired heart, one that not only needed rest but was seeking to take it. Sparteine in here imparted power and tone to the heart-muscle, filled out the volume of the pulse, and increased its rate from 52 to 74 in the minute.

The author has repeatedly observed this effect, and now does not hesitate to affirm that sparteine has the power to regulate the action of the heart, but that in doing so it also always tends to restore its action to the normal or in the direction of the normal, both as to rate and volume. It imparts a degree of muscular tone which enables the organ to act more normally, and for this reason deserves to be classed as a true heart tonic.



Tracing No.1

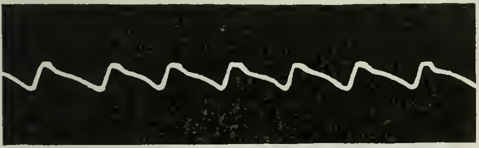
Tracing No. 1 shows patient with a regularly irregular heart action, the irregularity being one full long contraction with two intervening shorter contractions, followed regularly by one long and two short beats. The pulse-rate, 70; blood pressure (systolic), 125.



Tracing No. 2

Tracing No. 2 is from the same patient, two hours later, and two hours after 2 grains of sparteine had been given by mouth.

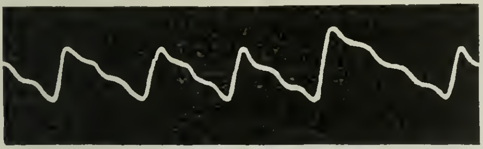
At the time of taking this tracing the pulse-rate was 74, an increase of four beats to the minute; but the blood pressure (systolic) has fallen to 120. It will be observed that the heart action had become perfectly regular and the longer upward stroke of the needle shows increased volume of pulse. Tracing No. 3 was taken seven hours later, and this shows a distinct waning in the effects of the remedy, as indicated by shorter upward strokes of the sphygmographic needle.



Tracing No. 3

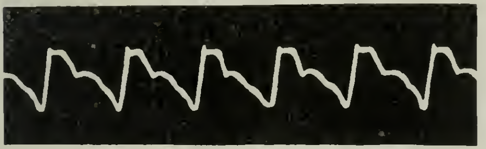
The pulse-rate at the time of taking tracing No. 3 was 76; blood pressure (systolic), 115. While the volume of the pulse had decreased considerably at the time of taking tracing No. 3, the irregularity shown in tracing No. 1 was absent; in fact, this irregularity did not recur to such a degree as to be noticeable until twelve hours from the time of taking tracing No. 1.

Tracing No. 4 is one obtained in a similar case, in which there was a regularly irregular pulse, the irregularity consisting in one long and five intervening shorter beats. The pulse was full and strong, but regularly irregular.



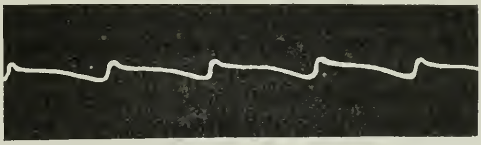
Tracing No. 4

One and one-half hours after 2 grains of sparteine had been given hypodermatically tracing No. 5 was taken. At the time of taking tracing No. 4 the blood pressure (systolic) was 130; pulse-rate, 68. At the time of taking tracing No. 5 the blood pressure (systolic) was 120; pulse-rate, 74.



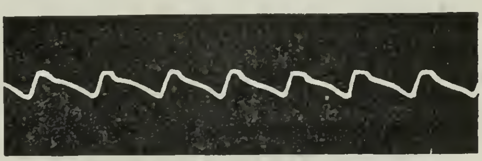
Tracing No. 5

It will be observed that in each of these cases the action of sparteine in correcting the irregularity increased the pulse-rate slightly. This is directly opposite to its effect when there is no irregularity to correct. Where the heart action is weak and the muscle lacking in tone, it imparts strength and tone but decreases the rate. This decrease in rate is usually from 5 to 10 beats per minute; but when the heart action is very rapid and weak, the decrease in rate often is 20 to 40 per minute. When, however, the heart action is abnormally slow and weak, sparteine acts as a regulator both as to volume and frequency. Under these circumstances the added muscular tone brings the heart action up nearer to the normal, even if that be to increase the frequency of its contractions as well as increase the volume of blood propelled by each contraction. This is shown by tracings 6 and 7 in case No. 3, which follows. Here the pulse was abnormally slow and thready, the rate being 52 per minute, and blood pressure (systolic), 125.



Tracing No. 6

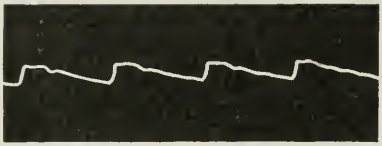
A hypodermatic dose of 2 grains of sparteine was given, and in thirty minutes distinct improvement in the volume of the pulse could be detected. Tracing No. 7 was taken two hours from the time the sparteine was given. At the time of taking this tracing the pulse-rate had increased to 74 and the blood pressure (systolic) had fallen to 120. The difference in the tracing indicates the improvement in the volume.



Tracing No. 7

Six hours after tracing No. 7 was taken, or eight hours from the time the sparteine was given, tracing No. 8 was taken. At this time the effects of the remedy had been partly exhausted, as indicated by the decreased volume of the pulse. The rate also had become slower, it now being 65 per minute; but that the remedy was still exerting considerable influence is shown by comparing tracings No. 6 and No. 8.

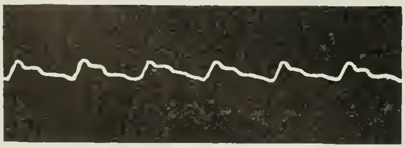
While the author's conclusions as to the physiological effects and therapeutic use of sparteine are based solely upon his own clinical study of the remedy, he finds that Dr. Oscar Jennings, of Paris, had preceded him in prosecuting such a study. The conclusions arrived at by the author and Dr. Jennings, each acting independently of and unknown to the other, harmonize to such an extent and so fully sustain each other that the author takes pleasure in quoting passages from Dr. Jennings' work, as follows:



Tracing No. 8. Morphine patient feeling effect of want

"The deprivation of morphia shows itself by certain symptoms which, as I have said, are natural indications of the treatment required. It should be borne in mind that, when giving up morphia, it is a question of giving up, not a habitual sedative, but principally a stimulant, and a stimulant of such transcendent power that the vital collapse which results from its suppression far exceeds anything that could result from the privation of any other stimulant.

"By gradual reduction and change from the more stimulating hypodermic to the sedative rectal injections, the collapse that would have resulted from sudden hypodermic suppression has been avoided; but, if there was nothing now to be done beyond progressive reduction of the morphia, as is the case outside of my treatment, the final suppression, unless spread over a long time, would still give rise to a great deal of discomfort. Observation, however, shows the suppression of morphia, which amounts practically to the suppression of a fictitious vital force, gives rise to general functional depressions and metabolic perversions, and these disturbances serve as our guide to treatment.

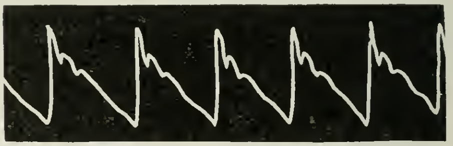


Tracing No. 9. From same patient, with pulse restored by morphine

"The heart is nearly always affected in its functions and the sphymographic tracing shows a sluggishness that is only too eloquent as regards discomfort. This constitutes my first therapeutic indication.

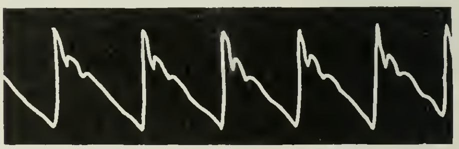
"The preceeding tracing, No. 9, from a former communication to the Academy of Medicine, shows the pulse of a patient who is in want of his dose of morphia.

"Tracings No. 10 and No. 11 are practically identical, but, whilst the first is the effect of a dose of morphia, the second shows the effect of an injection of sparteine.



Tracing No. 10. From same patient, showing the restoration of the pulse, after a state of want, by injection of sparteine

"Heart tonics form, then, my first means of preventing the craving. The first of the three tracings shows a peculiar plateau, caused by the want of cardiac impulsion, together with a resistance to the passage of blood in the vessels. A hypodermic injection given at this time reestablishes the normal state of the circulation, as is shown in the second tracing, taken from the same patient as the first at an interval of a few minutes. It was the study of these tracings that suggested the use of cardiac tonics and stimulants as substitutes for the morphia; and, in so far as the heart is concerned, the third tracing shows how completely they can replace it.



Tracing No. 11

"As is the case for each of the means of treatment I have proposed, the utility of heart tonics has been endorsed by every subsequent French observer. I shall content myself with one quotation only:

" 'The pulse of the morphia-habitué,' says Dr. Pichon, 'does not afford to the finger any important indication . . . .; but there is a registering apparatus, the sphygmograph, which compensates for this insufficiency as regards delicacy of touch, and which analyzes the slightest arterial anomalies. It is in this manner that the experiments to which we refer, and which we had the good fortune of witnessing, were made. . . . . These researches were made by Dr. O. Jennings, attached to the laboratory of Professor Ball, upon the numerous morphia-habitués who were attending the clinique at the time. . . . . . Before arriving at a definite result, Dr. Jennings took a series of tracings from patients in different stages of morphinism—state of want, state of satisfaction, intermediary condition, normal condition.'

"Dr. Pichon then gives the conclusions of the communication presented by Professor Ball and myself at the Academy of Medicine and adds: '*Nous avons controlé a plusieurs reprises ces savantes recherches. Nous avons pris un tres grand nombre de traces, et nous sommes arrivé aux mêmes resultats.*' He then points out that the sphygmographic examination of the pulse is, as I have always taught, the best way of telling whether a patient is honest or not in carrying out the prescribed reduction. If the plateau is not obtained, when the patient ought to be in a state of want, there need be no hesitation—he takes morphine secretly.

"'This discovery has been the pivot'; he continues, 'of the physiological treatment, which appears to have given (as we shall see at the end of the chapter) very good results.' After numerous trials, Dr. Jennings found that the sphygmographic tracings, after the use of sparteine and trinitrin, gave the same results as an injection of morphine.

"The problem was solved physiologically and clinically. It (the treatment) often gave before us excellent results. . . . . Most interesting practical consequences result from these physiological discoveries, both as regards diagnosis and treatment.

"Further on, after passing in review the different treatments that have been advocated, Dr. Pichon concludes: 'We should prefer the physiological treatment of Jennings, based upon the action of sparteine and trinitrine. . . . . We have seen that these two therapeutic agents replace absolutely the circulatory action of the morphine-euphoria and overcome the state of want by causing the disappearance of the plateau.' ("Du Morphinisme," Paris: O. Doin. 1890.)

"Further on he confirms the value of sparteine in causing the disappearance of discomforts brought about by depression of the heart. 'According to the patients,' he says (quoting from my communication to the Academy of Sciences), 'this medicine *gives them heart*. The indications of the sphygmographic tracings show how this familiar expression is rigorously exact from the point of view of the physiological action on the heart. Sulphate of sparteine increases the contractile energy of the heart, regularizes its rhythm, acts with great rapidity, and possesses a considerable persistence of action. These are properties that render it extremely precious in the period of abstinence, and make it a *médécine de choix*.'"

[*To be continued.*]

OVER the plains and prairies, over the mountains and seas, over the cities and towns, in pálaces, tenements, moving-wagons, dugouts, cottages, hovels, sleeping-cars, autos, day-coach, caboose, cab, in solitary cells behind prison-bars, or wandering out under the stars, my heart goes out to you, O Man, whoever you are, wherever you are, and I wish you well. Only love do I send and a desire to bless and benefit.—Elbert Hubbard.

Paracelsus

An oration delivered at the Amherst College Commencement, June, 1912

By ARTHUR BATES LYON, B. A., Brockton, Massachusetts

FOR the Western World the sixteenth century meant great things. The Renaissance was not yet come; but its approach was heralded by a restless transition period, great in men and achievements. The old order, the heritage of the dark ages, must be consumed with fire, but from its ashes was to arise, Phœnix-like, "a new heaven and a new earth."

Printing had just been discovered. The arts were turning to nature. El Dorado—a golden country discovered by Columbus—what a hope to fire the imagination! Under Luther and Zwingli, Europe was to make its protest against the limitations and hypocrisies of Romanism; under Petrarch and Erasmus, learning and letters were to make vast progress; under Paracelsus, that noble art, the healing of broken bodies, was to establish itself on sound and scientific principles. Ingratitude of the ages! that this man's name should lie half-forgotten; that when the name of Paracelsus comes to us vaguely out of the past it should be coupled with the epithets "charlatan," "impostor," "quack!"

Paracelsus

The life of Paracelsus is a strange romance. His earliest intention was to be a physician. From his father, Wilhelm von Hohenheim, a physician of Einsiedeln, he learned his first lesson in healing, the first secrets of nature. Later he studied at Basel; but his ambitious spirit soon longed to be freed from a routine of study with the useless abstractions of which he had no sympathy. But the Abbot Trithemius, rich in knowledge and firm in the love of God, gave a vital impulse to the young life which Paracelsus offered; taught him the divine revelations which the Bible expresses.

Still, the world called Paracelsus with a thousand voices. The university had offered its all, and it was not enough. He must go beyond this. The schoolmen were blinded by the dust of the ages; abstruse and petty theories held them in a paralyzing grasp.

Medicine was in the strong grip of tradition—occult, superstitious, worthless tradition—transcribed by Galen, and sanctioned from immemorial times by the fallacious wisdom of antiquity. True that Roger Bacon had shown the way to truth through scientific research, but the world had rejected him and his doctrines! It is hard to break the crust of custom.

He Saw the God in Nature

Yet the lamp of God's truth burned clear in the heart of Paracelsus. And the world must have that truth, in so far as he should be able to give it. He was youthful, but wise. He saw that nature must be man's book. If the divine in his soul showed him a God there to be worshipped, it showed him no less a God in nature that man must ever be seeking. If even the dumb beasts learn from nature, how much more shalt thou learn from it, O man?

So Paracelsus sought God's revelations in many lands. The healing plant the precious ore, yielded to him life-giving virtues. And he studied the nations, likewise—the haughty Spaniard, the quick Frenchman. Italian universities gave him their learning; the hardy British stock taught him new lessons. To the Netherlands, where there was fighting, and where his skill helped to heal many a torn body! To Denmark and Scandinavia, homes of the Teuton sea-rovers! To the southward, back again through the Latin lands, first with one body of itinerant pilgrims and then with another; always with the love of God in his heart; always ministering, healing, learning! To the eastward among the Turks and the Tartars! Magic and astrology he saw to be vain mummeries, but from the mystics of the East he learned anew that God is omnipotent and inscrutable. And like the prophets of old, he reconsecrated himself to the service of humanity—to give life, and that more abundantly.

Paracelsus Teaches Living Medical Truths in a Living Tongue

A great reputation preceded wisdom-seeking Paracelsus to Basel, whither he returned to practise and to teach. He was a veritable ministering angel to the suffering. He began to lecture in the unversity—not in the customary dead language of the past, but in German—speaking living truths in a living tongue. He boldly proclaimed the value of original research; the practical worth of his remedies could be seen by all. The needy student might be sure of a friend in him, and at his house a welcome. His lectures were crowded, his demonstrations eagerly attended.

However, this cup of happiness was not to last. The doctors grew jealous; they knew not of his medicines; to lecture in a modern tongue was unheard of; he wore no crimson robe nor dangled golden chains. They attacked; and he dauntlessly denounced their ignorance and their impostures. The truth was bitter, and it hurt. They turned against him to a man, but he faltered not. Even among his pupils there were Judases. Yet, if his sensitive soul was torn by men's ingratitude, his indomitable will prevailed. Then brute force triumphed over justice, and a prison-cell would have claimed him had he not fled.

His were sovereign remedies, but greater yet was the spirit of Christ in his heart—"Blessed are ye when men shall revile you and persecute you, and say all manner of evil against you falsely, for my sake."

Paracelsus the Wanderer

The restless wanderings began again. "The sick are the doctor's books," he said; and always the sick found relief at his hands. He asked no fees save from those well able to pay. From town to town Paracelsus wandered, often penniless, frequently ragged, always heroically persistent. And always, too, he encountered the enmity of the doctors. His degrees were called in question. Could this man, poor and ragged, be a physician? A doctor, forsooth, should be clad in silks and satins!

Yet, wherever he could find a roof to shelter him for a few months, he would set up his simple apparatus—his forge, his crucibles, his alembics. He worked indefatigably to perfect his knowledge; his diagnoses were careful; his treatment was skilful and thorough. "Rest is better than restlessness," he said, "but restlessness is more profitable."

And now a new force rose up against him. Always a profound student of the scriptures, Paracelsus sought with remarkable knowledge and sympathy to expound them. He favored neither the militant radicalism of the Protestant nor the narrow ecclesiasticism of the Romanist. He stood for the simple teachings of Jesus—love and the brotherhood of man. Yet must the clergy assail him, and with the bitter weapon of intimidation. His scientific attainments had been questioned; now he was proclaimed a heretic and an outcast from the mother church. His friends were warned against him; he was denounced as a rogue, a profligate. Never was man more unjustly branded! Ah! Paracelsus, thou too wert despised and rejected of men!

Paracelsus and His Books

A lesser soul had succumbed before these onslaughts. His books—the children of his brain, his message of emancipation from outworn dogma, the means by which he hoped to point the way of truth to men's minds—he could hardly get published at any cost. The long, hard years were beginning to tell; yet did he trumpet his clear defiance to the unbelieving host. "The theories which you scorn," he told them, "shall one day become your creeds!" And it was so.

Yet Paracelsus was not to see this realization with his eyes. The once tireless energy was beginning to flag. The man who had so generously given himself to others was dying. The utmost skill availed him nothing. He felt the end, but it was God's will, and he was content.

When he died, it was to remember his closest friends; the most of his few possessions to be expended among the poor. The greatest figure in medicine from the sixteenth to the nineteenth century had passed beyond!

The life and death of this great man illustrate his favorite quotation: "I will magnify thee, O Lord, for thou hast set me up, and not made mine enemies to triumph over me. . . Heaviness may endure for a night, but joy cometh in the morning." But that joy for him was upon the other side. The callous world took this man's gifts and repudiated the giver! Yet one day his story shall be set in truth and justice upon the pages of history. A master poet has already seen that great life in clarity:

> "If I stoop
> Into a dark, tremendous sea of cloud
> It is but for a time; I press God's lamp
> Close to my breast; its splendor, soon or late,
> Will pierce the gloom: I shall emerge one day.
> You understand me? I have said enough!"

Some Facts About Rabies

And Its Modern Treatment

By G. E. WITHAM, M. D., Lawrence, Kansas

THE popular word hydrophobia—meaning fear of water—as applied to rabies is a misnomer and should be discarded. A rabid dog has no fear of water. He is intensely thirsty, but he can not drink. The popular mind should be educated as to the nature of this most dreaded disease.

The word rabies means madness, and rabies canina implies dog-madness. It is with this form of the disease that we have most to do, although it is manifested in many other animals, and occasionally in man himself. However, the disease always comes through inoculation with virus from infected animals, usually the dog. The saliva of the animal is the infecting medium that conveys the living microorganism—which is the poison.

Rabies Was Known to the Ancients

Rabies has been known for more than twenty-three hundred years. The first attempt at a full description was made by Celsus eighteen hundred years ago.

The following description of the symptoms in man by one of the ancient writers can scarcely be excelled today:

"In the beginning of the attack anxiety, with no reason for it, irritability and malaise, restless movements, sleep light and disturbed, insomnia, stretching and gaping, and a desire to vomit, and an unusual intoleration and loathing of liquids.

"When the disease is established, there is thirst, and at the same time inability to swallow water. This fear also extends to oily preparations. The pulse is hard and irregular and there may be light fever. There is nervous spasm and trembling. The voice resembles the barking of a dog; breathing is difficult; the face and eyes are congested; pallor and sweating are present; there are frequent eructations. The tongue is protruded; there is hiccough, bilious vomiting, and fear of drink."

Symptoms of Rabies in the Dog

It is important that we recognize the early symptoms of rabies in the dog. The bite of a dog may communicate the disease three or five days prior to the development of active symptoms in the sick dog, making plain the disease. At this stage the animal may be playful and affectionate to an unusual degree; he desires to be recognized and petted. Later, there is a marked change in the voice to a hoarse howl, followed by a bark.

"The rabid dog becomes restless, lying down and getting up again repeatedly. He is easily startled, growls and barks on slight provocation. He may suddenly leave home, wander off miles, and return in a day or two emaciated, wounded and utterly changed. He may have bitten many persons and animals; he may bite and tear himself at the sight of the wound. He does not fight other dogs but bites them and passes on. Convulsions now appear; the hind legs are often paralyzed and the animal may die in a convulsion."

As already stated, the popular idea that a rabid dog has fear of water is a mistake—he is thirsty, but can not drink. In his wanderings he often will swim rivers. Owing to some obscure cases of infections, it has been supposed by some that the disease may originate spontaneously. But it is a fact that in all cases of infectious diseases the origin comes from infection alone. They never originate *de novo*.

There is no known cure for rabies after it is developed. It is said that in Australia there never has occurrred a case of rabies, nor in New Zealand, and in some other countries it has not been prevalent.

Some People Question the Reality of Rabies

It is a strange fact that there are persons at the present day who disbelieve the reality of rabies! It was my experience, while in charge of an army hospital, to see a case develop in the person of a soldier who had been bitten by a mad dog three months before. I called upon an army surgeon for assistance in the diagnosis of the case. Imagine my astonishment to find him skeptical as to the reality of any such malady as rabies. But my surprise was somewhat modified when I called to mind that I had met with persons who claimed that the world is a flat surface resting upon rocks all the way down! There are persons who disbelieve the reality of what they themselves do not see.

The history of rabies reveals to us in its folk lore a vast amount of ignorance and superstition, but lack of space forbids a recital of those beliefs. The madstone fad has at the present day its advocates and dupes. We are told of cases where it has been applied and no rabies has developed. The apparent virtue of the madstone is explained by the fact that only about fifteen percent of persons bitten by real mad dogs ever develop rabies. In many instances the clothing bitten through rubs off the virus from the teeth.

Madstone or Pasteur Treatment?

Many deaths have resulted by tampering with the madstone and excluding the Pasteur treatment, the only reliable treatment, but which is effectual only during the stage of incubation, which may last from a few days to a year. It is a great mistake to kill a dog that has bitten a person and is suspected of having rabies. The dog should be confined, to see whether the disease really develops. Much anxiety and expense may thus be avoided in some cases.

There is good reason to think that, if wounds from rabid animals can be immediately and properly treated, infection may not occur. The treatment promising the best results is the immediate application of formalin. This is the most penetrating antiseptic agent known, and it may neutralize the poison if applied at once, before absorption has taken place.

Rabies is so rare a disease that many physicians have never seen a case, but witnessing it in man one may be excused for asking the question, "Is nature cruel?"

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[At the Congress on Hygiene and Demography at Washington we were informed by Albert that last year there were more than 4000 cases of rabies in this country, which in this unenviable respect leads all the nations of the world, with the exception of Italy. As Dr. Witham says, Australia has never had the disease, but this is due to the efficiency of its quarantine against animals. The disease can be prevented by enforced muzzling of dogs, and there has not been a single case in England since the muzzling law went into effect in 1902. It is the unmuzzled, unlicensed dog that is the source of danger, and the pet dog, sometimes carried around in the automobile, as related by Cummins, in one case, may serve as the means of transmitting the disease over half a state.

The Pasteur treatment is effective in preventing the development of the disease in persons bitten by rabid dogs. Albert says that the mortality when this treatment is resorted to is only one-half of one percent. This treatment can now be secured by application to many state boards of health, or from the United States Public Health Service. Any physician can doubtless secure the vaccine by writing or telegraphing Surgeon-General Blue at Washington, who will see that it is sent or notify the applicant where it can be pro-cured. The method of making the antirabic vaccine has recently been much improved.

Cummins, of Ann Arbor, speaks highly of cauterization with undiluted formalin, while the New York Board of Health recommends pure nitric acid, which is said to be of value, even up to twenty-four hours. Of course these should not replace the Pasteur treatment.—Ed.]

THERAPEUTIC NOTES

CALCIUM SULPHIDE IN ACNE

Frederick H. Dillingham, in an excellent paper on acne (*Merck's Archives*, October, 1912), asserts that deep pustular lesions indicate that the soil is favorable to the growth of the acne organisms. In this case, calcium sulphide, 1-2 grain three times a day, sometimes proves beneficial.

HUMAN SERUM FOR THE CURE OF HEMORRHAGE

Louis A. Levison (*Interstate Medical Journal*, November, 1912) claims that in his hands the efforts to check hemorrhages in children by means of calcium, gelatin, adrenalin, or styptics have been unsatisfactory and the use of animal serum not successful, but that the use of human serum always was followed by good results. Since this latter never produces any toxic effect, it should invariably be employed in all hemorrhages of childhood. Unfortunately, the remedy is not usually very easy to get. Beef or horse serum is much used and can be secured from makers of biologic products.

DIET IN CIRCULATORY DISEASE

The ideal diet or the key to an ideal diet, according to Louis Faugeres Bishop (*Medical Record*, September 28, 1912), for a patient with heart and blood-vessel disease is bread and butter, with a certain amount of milk to supply the fluid, and enough cheese to make up the protein requirements, without an excess of carbohydrates, or heat-units.

BREAD AND BUTTER

Louis Faugeres Bishop (*Medical Record*, September 28, 1912) thinks that, if a man is fed on bread and butter alone, he receives an excess of carbohydrates which burdens his digestion. It leads to an accumulation of weight and other evils; while, when given bread and butter in moderation and enough cheese to furnish the necessary protein, he gets along perfectly well on this balanced ration—which is a very good ration, indeed. Because of the scurvy problem involved it is necessary to add fruits and green things; still, the essential elements may be obtained from cheese, milk, and bread and butter.

CHROMIUM SULPHATE IN GENITO-URINARY TROUBLES

F. W. Schneerer (*Eclect. Med. Journ.*, October, 1912) reports several cases of renal, bladder, and prostatic disturbances in which chromium sulphate, 4 grains every three to eight hours (with much water, to avoid gastric irritation), worked well. It was quite effective in the nocturnal incontinence of urine in children.

THE IMPORTANCE OF DIET IN HEART LESIONS

In an interesting paper in *The Medical Record* for September 28 last, Dr. Louis Faugeres Bishop emphasizes the importance of regulating the diet in purely valvular cases; that is to say, not in advanced cases in which the kidneys have become involved. Many of these patients will, in addition to their chronic heart trouble, suffer from chronic intestinal putrefaction resulting in the chemical poisoning of the heart-muscle, and this will prevent a satisfactory degree of compensation from being developed. If in such cases the diet is carefully regulated, prompt improvement will, as a rule, occur.

THE USE OF VASELINE IN ACNE

In an excellent paper on the etiology and treatment of acne, Dr. F. H. Dillingham (*Merck's Archives*, October, 1912) warns against permitting the substitution of petrolatum for vaseline. The former, according to the author, irritates the skin, and he describes a case where an intense dermatitis followed its application. Vaseline is useful as a base for other remedies, e. g. precipitated sulphur (20 grains to the ounce), but it should not be used in women with a tendency to growth of hair, as it tends to promote this.

In explanation, it might be added that, after all, vaseline is only a proprietary petrolatum, made and sold by the great Standard Oil Company. It is doubtless of superior quality, although the United States Pharmacopeia fixes definite standards of purity for petrolatum, which is official.

THE FOLLY OF CAUTERIZING DOG BITES

Dr. Lesser (*American Journal of Surgery*, August, 1912) calls attention to the folly of cauterizing dog bites, because this treatment entirely fails in the desired object, that is, the prevention of the spread of poison into the general system. On the contrary, cauterization closes the channel of exit and prevents the escape of the virus; in fact, it favors its absorption. A dog bite, or any other bite that is likely to carry infection, should be treated by encouraging free bleeding and then applying a mild antiseptic dressing. If the wound does not bleed freely, suction may be applied.

In contradistinction to this opinion was the advice given at the Congress of Hygiene, at Washington, to apply pure formalin as a cauterizant to wounds made by dogs suspected of being rabid.

ANTITYPHOID VACCINATION THROUGH THE INTESTINE

Courmont and Rochaix (*Muench. Med. Woch.*, 1911, Nos. 49 and 51) succeeded experimentally in immunizing animals against typhoid fever by introducing into the intestines cultures of typhoid bacilli killed at 53° C. The administration by mouth did not give definite results, but the authors had better success with high colonic injections of the cultures to which a small amount of opium had been added. They found that in man three injections of 100 Cc. each of vaccine made at intervals of five days are sufficient.

HYOSCINE IN THE MORPHINE HABIT

In overcoming the morphine-habit, A. Fromme (*Berl. Klin. Woch.*, July 15, 1912) first reduces the dose of morphine to a minimum, then uses hyoscine hydrobromide by injection sufficiently to keep the patient asleep until all the morphine is neutralized and excreted. The duration of the narcosis depends upon the amount of morphine the patient has been taking; it sometimes being advisable to continue the narcosis for seven or eight days. The patient should be kept in a darkened room and on a liquid diet. Morphinists usually tolerate hyoscine very well. Evil after-effects have never been observed by the author.

PHYSOSTIGMINE IN CARDIAC DISORDERS

Dr. Rudolph Kaufmann (noted in *Universal Medical Record*, October, 1912) employed physostigmine in several cases of paroxysmal tachycardia, either alone or in combination with digitalis and strophanthus, and has been much surprised at its efficacy. He gives an interesting detailed report of three of these cases, with pulse tracings, showing the nature of the attacks and the effect of the treatment.

Dr. Kaufmann administered the drug, by mouth, in the form of physostigmine salicylate, in a 1:1000 solution, giving 3 to 10 drops three times a day. The effect of the treatment was to diminish rapidly the frequency and severity of the attacks, till finally, in the course of a week or so, they ceased to occur altogether. He has also tried the drug in small doses in the tachycardia of Basedow's disease, but without any marked effect. So, also, in cases of "arhythmia perpetua" its efficacy was doutbful, but the number of cases observed was small. He ascribes the effect of the drug in these cardiac troubles to stimulation of the vagus nerve-endings.

DIARRHEA OF THE TUBERCULOUS

Barlett and Murphy (*Boston Med. & Surg. Jour.*, Sept. 5, 1912) treat of the exhausting diarrhea so often encountered in the subjects of pulmonary tuberculosis. An extensive study of the feces indicated that, as a rule, these patients were not subjects of intestinal tuberculosis. In treatment, they found that artificially soured milk gave the best results, both as a diet and as a remedy. "Its range of usefulness extends over almost the entire field of gastrointestinal affections encountered in sanatorium work."

Ten years ago, in his work on "Respiratory Diseases," Dr. Waugh called attention to his observation that this diarrhea of the tuberculous was readily controlled by flushing the bowel and disinfecting with calcium sulphocarbolate. The effects were so marked as to indicate the impossibility of the diarrhea being dependent upon tuberculous intestinal ulceration.

As regards the application of the soured milk, the practician should note that, to secure its benefit, he must not employ laxative or antiseptic medication at the same time;

also, that one or two weeks are required to develop the benefits. The good results of calcium sulphocarbolate are manifest within forty-eight hours, but it may well be followed by a course of lactic-acid germ medication.

THE TREATMENT OF BOILS

In *The California Eclectic Medical Journal* for October, 1912, Dr. H. H. Blankmeyer relates his personal experience with boils; and it appears that the Doctor has been suffering from boils ever since childhood, until quite recently he discovered that by a proper intestinal cleaning out (with belladonna, aloes, podophyllin, capsicin, and strychnine) he could keep his condition sufficiently resistant to prevent the boils from forming. Boils that are forming, he has found, can be aborted by the cautious use of carbolic acid, but care is required not to produce a carbolic-acid slough, which heals very slowly.

If the Doctor would carry out and develop the lesson he has learned from his experience and not only would clean out but besides give some internal antiseptics, such as, particularly, calcium sulphide to saturation, he probably would find himself even better off. Boils undoubtedly are due largely to intestinal autointoxication, the immediate cause frequently being errors in diet of one kind or other. In patients subject to boils, a periodical cleaning out with calomel and podophyllin, followed by a saline laxative, and then a course of sodium sulphocarbolate, sodium sulphate, sodium bicarbonate, colchicine, juglandin, and xanthoxylin will prevent the tendency to the formation of boils; while a boil that is forming can be aborted by the same cleaning out with calomel, podophyllin and saline laxative, and then complete saturation with calcium sulphide. The local treatment with carbolic acid has been found by experience to be excellent, but any surplus of the acid should be removed with alcohol.

THYMOL FOR STERILIZING THE OPERATIVE FIELD

Although the application of tincture of iodine for the purpose of disinfecting the skin previous to operation has shown most excellent results, this measure is not as yet the ideal one, and further investigations have been carried on. Thus Hoffmann (*Beitr. z. Klin. Chir.*, 1911, p. 496) published the results of his experiments with the use of thymol-alcohol and his satisfactory experience led Dr. H. P. Kuhn (*Surg., Gynecol., & Obstetr.*, Oct., 1912) to try the method in some 200 consecutive cases. Kuhn modified Hoffmann's technic as follows:

The patient receives a bath the night before the operation. The abdomen, or whatever be the part, is scrubbed with soap and water and dried with a towel. The patient is put to bed with no compress or application of any sort. One hour before the operation the field (scrotum and perineum excepted) is wiped over with a gauze sponge saturated with the solution, care being taken, following Hoffmann's instructions, not to have the sponge too moist or to allow the solution to remain in any depressions.

There occurs, at this time, a sensation of warmth accompanied by a mild degree of hyperemia. No patient has ever complained of burning or discomfort, nor has the author observed the slightest degree of dermatitis following. After the application has dried, which occurs in a few moments, a large sterile gauze pad is applied and retained with a binder. The second application takes place on the operating table, the same precautions being followed as for the first. The operation begins five minutes after the last application. In emergency cases the solution has been used immediately after the scrubbing or without preliminary scrubbing, with good results.

The author found this method efficient in the preparation of the skin in any locality, over abrasions, compound fractures, and infections; but it should not be used on the scrotum or the perineum, as here it is as likely to produce a dermatitis as is any alcoholic solution.

To get the best results, Hoffmann's rules should be followed: (1) Allow at least five minutes after the applications before operating. (2) Do not use an excess of solution or flush the parts. (3) Do not allow the pertioneum to come in contact with the solution or with the skin disinfected with the solution.

HYPERTENSION DUE TO AUTO-INTOXICATION

In *The Providence Medical Journal* for September, 1912, Dr. W. F. Barry presents a very interesting study on hypertension, a problem he has carefully investigated for a number of years. The doctor agrees with Dr. Snow, of New York, that conditions within the alimentary canal have more to do with the establishment of hypertension than other affections. While over indulgence and excessive eating, particularly of foods rich in protein, such as meat, are objectionable, it cannot be stated that carbohydrates in connection with excessive feeding do not also play a role in the autointoxication process.

With regard to the treatment of hypertension, Dr. Barry does not believe there is any drug that has any permanent effect in reducing this condition. Furthermore, he has found the iodides useless, while the nitrites are merely of temporary value, and should be used only in crises of the disease, lest the organism become accustomed to them.

Although drug treatment promises little, if any, curative effect, symptomatic treatment is of great importance, and will open the way for a definite curative treatment, which will thereby be made easier.

For the headache of hypertension, the author gives the bromides: for insomnia, veronal. In irritable, pounding heart, he has seen good results from strontium bromide, with 2 or 3 drops of tincture of aconite [aconitine, the alkaloid—Ed.]. For the dizziness, nothing will give better results, in the author's opinion, than the bromides; the potassium or sodium salt being recommended in doses of not less than 15 grains three times a day. For weakening of the heart-muscles, digitalis often works wonders, and, although digitalis physiologically raises blood pressure in a normal subject, it has been found by careful observation not to have the effect of increasing the pressure in arteriosclerosis or in chronic myocardial disease.

Of considerable value in the treatment of hypertension is electricity, which, according to Dr. Barry, surpasses in efficacy the employment of any drug medication or baths, for by it it is possible to lower arterial tension to a considerable extent and to maintain it at an entirely safe rate.

The most important part in the management of cases of hypertension is attention to the dietetic and hygienic regimen. Many cases of hypertension in fact are found among those fond of the good things of life, and not only excessive meat eating is a cause, but also excessive eating in any way. Patients with hypertension should take only the least possible amount of food compatible with health. Meat should be eliminated as far as possible, a low diet being sought and kept up indefinitely.

Dr. Barry closes his very interesting and valuable paper by warning against dizziness. He says: Beware of dizziness! Don't pass it up labeled as liver disease! Look for the cause, and very many times it will be hypertension. Keep accurate records of these cases for comparison, for in no other way can you tell of the progress of the condition. Study every case that comes to your hands for hypertension, and you will be repaid a hundred fold."

TREATMENT OF HEPATIC COLIC

A late issue of *Le Journal de Médécine et de Chirurgie* treats of the hepatic paroxysm and its management. The problem is, to control the pain without having recourse to medicaments so energetic as to induce organic reactions. If the stomach will bear it, Robin's potion is advised: Potassium bromide, 0.6; morphine hydrochloride, 0.05; extract of belladonna, 0.05; syrup of ether, 30.0; cherry-laurel water, 10.0; hydrolat [distilled water] of valerian, 110.0. A soupspoonful every half hour for three or four doses is to be taken.

Or this: Syrup of chloral, 30.0; glycerin, 30.0; saturated chloroform water, 50.0; distilled water of linden-blossoms, 50.0. A soupspoonful every quarter hour to be taken till cessation of the crisis.

Another, by Pouchet: Amyl valerate, 0.60; oil of sweet almonds, 8.0; acacia, 5.0; syrup of orange, 30.0; distilled water, 60.0. Take at once in a half glass of water or milk.

Locally, make hot applications, and add this liniment: Baume tranquille, 40.0; extract of opium, 2.0; extract of belladonna, 2.0; extract of hyoscyamus, 2.0; chloroform, 10.0.

Or: Menthol, 1.0; chloroform, 10.0; methyl salicylate, 10.0; camphorated oil, 100.0 (Hirtz). Apply at night to the hepatic region and cover with flannel.

Gilbert counseled recourse to enemas: analgesin, 1-2 Gram. Dissolve in 150 Grams of water. Add laudanum, a few minims, and use as enema. Repeat in two hours if the pain has not subsided.

A suppository may also be administered every hour: Extract of belladonna, 0.02; extract of opium, 0.02; cacao butter, 2.0. For one suppository. Do not exceed five in the twenty-four hours.

It is usually preferable to resort to the subcutaneous injection of morphine. But one should know that the large dose of 1 centigram may be dangerous, and there have been fatal results from this massive dosage. Much better works the combination of: Morphine sulphate, 0.01; hyoscine hydrobromide, 0.0005; cactin, 0.001. To this we suggest adding sparteine sulphate, 9.0.

GLEANINGS *from* FOREIGN FIELDS

TRANSLATED BY E. M. EPSTEIN, M. D.

Dyspepsia or Gastritis and Its Successful Treatment

CHRONIC gastritis, which not so long ago was described under the term of "dyspepsia," is an affection for which the physician is consulted almost every day. Moreover, it is one of those ailments which requires much sagacity to manage, for under this common name and its seeming simpleness it may hide far graver conditions.

It is not the intention to write here a differential diagnosis of various diseases which may borrow more or less of the symptomatology of dyspepsia or of ordinary gastralgia. We shall limit ourselves to calling to mind those symptoms which, according to Prof. Jaccoud, are the principal ones, so that we may arrive rapidly at one of those capital indications for treatment which, instituted in time, may be sufficient to put things in good order again.

Chronic catarrh, unless it follows upon an acute one, comes on slowly, and is difficult to diagnose because it is apyretic. For a long time, in fact, all the symptomatology of chronic catarrh consists in some local phenomena and digestive disturbance. It is possible that perturbations in the operations on the stomach find an echo in the general nutrition and in the functions of other apparatus. But these secondary effects are always tardy, and, in the case of catarrh, it is, strictly speaking, more of an indisposition than a disease. The individuals affected are not bed-ridden, nor are they hindered in their common habits of life or in their habitual occupations.

When the stomach is empty its sensibility may be normal, but its digestion of food determines a feeling of fulness, of painful pressure, and more rarely of veritable pain. This pain manifests itself on pressure as well as during digestion, but in either case it is dull, and, in a word, it is tolerable.

With the uneasiness or pain that follows a repast there is for two, three, four and even more hours an elevation more or less of the epigastric region, according to the time it takes to digest the food taken into the stomach; then this temperature elevation disappears little by little as the food passes into the duodenum. This epigastric distention is the result of the formation of abnormal gas which comes from the decomposition of the ingesta in acute and in chronic catarrh. The latter we have seen provoked by a lack of acidity in the gastric juice, and by the mucus, which acts as a ferment.

At the outset of the sickness it may not be likely that the distention had any other than the cause mentioned, but when the distention has lasted some time it will be necessary to take into account the law of Stokes respecting the irritated submucous muscles, and we may be justified in attributing the slowness of the abatement of the distention to an insufficient muscular action by a too prolonged stay of the material in the stomach.

What is certain is, that the longer the food stays in the stomach, the more complete the decomposition of it becomes and the more considerable becomes the accumulation of the resulting gas. Thus we have the elements of a vicious circle established, for the gaseous distention, when great, has the effect of mechanically hindering the muscular action.

Even when the symptoms are not very pronounced the patient after a meal is constrained to loosen his garments, for if he does not do it the enlarging of the stomach upward pushes the diaphragm before itself, and then cardiac palpitation ensues at once, this lasting as long as stomachal digestion goes on, while the cause of this heart trouble may easily be misunderstood.

Although precaution may be taken to loosen all bands, the patient is dull, out of spirits, feels sore in his bones, tired, yawns repeatedly, and at last there come eructations, which bring often some small portion of the stomach-contents up into the mouth. These regurgitations, always very disagreeable to the taste, are either insipid or bitter, or, owing to the presence of a recent formation of certain acids in the stomach, what is belched up may have irritant properties that provoke a real burning sensation in passing the pharynx—which is known as pyrosis.

When once the digestion of the meal is done, kindly or otherwise, matters return into good order again provided there is no intestinal complication, there only remaining a sense of a passing fatigue.

This paroxysm, which recurs with every period of digestion, is at times deceptive in character. There is gastric distention and pressure, but there are certain dominant phenomena: cephalic congestion, the face is red and puffy; there is headache, also a *quasi* irresistible tendency to sleep; the respiration is more slow and sighing; the heart beats more frequently, while it beats more heavily and strongly against the chest. Some individuals have really a little fever at the same time. These symptoms, which may be ascribed in part to the mechanical distention of the stomach and in part also to an excitement of a centripetal action of the pneumogastric nerves, subside as the digestion progresses; but when they have once made their appearance they are sure to recur again at every repast, though somewhat less pronounced when the meal is lighter.

Vomiting is not a constant symptom, and vomiting of food immediately after a meal or one or two hours after, owing to an insufficient action of the gastric juice on nitrogenous matters, is the rarest symptom of all. In this respect this catarrh differs from all other chronic gastric maladies. The matter vomited is mixed with an abundance of mucus, and it may be more or less modified in character. This is owing to the abnormal presence of butyric acid, to a disagreeable penetrating taste and odor; while at times, but more rarely than in cancer, the vomitus contains, in addition, the microscopical fungi known as sarcina.

Vomiting without casting up ingested food is more frequent. The ejecta sometimes are viscous and coherent, disposed in long strings, or they may consist of an abundance of a watery transparent uncolored or slightly yellow-tinged liquid.

The appetite is always diminished and hardly has the patient begun to eat when he feels that he has enough. Frequently, too, the memory of what he has to endure during digestion causes the patient to abstain from all substantial food. In other cases there is a veritable disgust, to such a degree that the mere thought of viands provokes nausea.

The tongue may be clean, but more frequently it is coated as in buccal catarrh. The tongue is enlarged, patulous, the papillæ seem large, and the patient complains, especially in the morning, of a changing taste in the mouth.

The functions of the intestines are necessarily disturbed, but these disturbances are of different kinds and changes occur rapidly. The trouble may be an obstinate constipation with flatulence as a result of inertia of the intestinal muscles; or there may come on a diarrhea, provoked by the irritation from the arrival of materials by the stomach ill-elaborated; or, again, more simply, by a prolonged accumulation of feces—a diarrhea which actually is salutary in this case as a welcome unloading.

Thus, therefore, there are a sensation of fulness, sensitiveness of the stomach, flatulence, yawning, eructations, regurgitations, vomiting, anorexia, a "gritty" condition of the tongue, and all that results from these—in brief, the physiognomy of dyspepsia, or chronic gastritis.

Now, those of our readers who have followed us with attention must have already become aware that all these divers symptoms indicate clearly the use of quassin in the treatment of this state. We do not mean to say that this remedy alone will always suffice, but we are certain that judiciously employed, with or without adjuvants, according to circumstances, quassin will always be of the greatest usefulness.

Quassin contributes to the active functions of digestion as well in its primary phases of absorption—assimilation—as in its secondary phases, that of evacuation. Its primary action, which is very appreciable on the muscular fiber of the digestive tube, also augments its normal secretions secondarily and at the same time increases the muscular tonicity.

Quassin does not act directly on the assimilation, but indirectly by stimulating the appetite, and the digestion, augmenting by this action the quantity of ingested elements and improving the nutrition, which gains both by the quantity of the elements brought in and by the quality of the absorbing action.

The immediate effect of quassin is to increase the salivary secretion, and this saliva, although so hypersecreted, retains its normal composition. This effect is followed soon by an imperious demand for something to eat, which it will be well to satisfy if you wish to avoid the sensation of pain in the stomach, with acid regurgitations, or even with a sensation of fainting, if you are tardy in satisfying this demand.

From the first day of employing quassin you may notice an evident increase of the appetite, followed by a marked rise of strength consequent upon a more copious feeding and a better digestion of what was ingested.

Quassin, has, therefore, its indication in most diseases characterized by a more or less complete loss of the appetite and in those diseases which are consequent upon a defective or insufficient alimentation. Quassin will prove useful in various forms of anemia, of chloranemia, not, indeed, in the sense of a direct healing, but because it stimulates the appetite and facilitates digestion. In atonic dyspepsia, in vertigo caused by stomach ailments, and in general debility quassin will act equally as a stimulant of the appetite and as an arouser of the digestive functions of the stomach, both by its action on the gastric juice and its action on the muscular fibers of this organ, the tonicity of which it arouses.

That same action on the muscular fibers makes quassin available with success in vomiting from purely nervous causes.

Borborygmi are disagreeable, always embarrassing manifestations, and if due to digestive difficulties are efficaciously combated by quassin—always provided that the borborygmi do not arise from a too tight corset.

On the evacuations quassin acts in twofold manner. In cases of constipation it makes the discharges semisolid, molded; while in cases of diarrhea connected with a bad state of the digestive functions it stops the diarrhea by improving the digestion, just as it stops the constipation by arousing the contractility of the intestinal muscular fibers and increasing the intestinal secretions.

The indications for quassin are many and go beyond the digestive canal merely on account of the action which it exercises on the nutrition on the one hand and, on the other hand, on account of its action on the muscular contractility of the splanchnic organs. In the last category we would mention icterus from retention of bile, hepatic and nephritic colic, and cystitis, while among ailments depending upon malnutrition and in which quassin is indicated we mention chlorosis, anemia, adynamia generally and especially the adynamia of a long and difficult convalescence. But among all affections it is dyspepsia and anorexia where quassin will be found to serve well.

Lastly we must not forget to mention in this connection that quassin is useful to maintain or to increase the lacteal secretions which result from an improved nutrition and, it may be also, by a special action of quassin on the mammary gland.

Only the crystalline form of quassin should be employed, and be given in doses of 2 milligrams repeated five or six times a day, two granules before each repast.

The crystalline quassin only is recommended, because in the amorphous form it is associated in variable proportions with other, inert, substances which diminish its power appreciably so that the active substance can not be prescribed with precision. This accusation we make against most of the amorphous alkaloids.

Quassin must always be prescribed in the form of granules to the exclusion of all other forms, on account of its intense bitterness when administered in any liquid form.—*Revue Therapeutique des Alcaloides*, July, 1912.

LEAD POISONING FROM TOBACCO SNUFF

Stadler, of Gais, Switzerland, reports the following case: A woman, aged 33 years, came under treatment for bilateral inflammation of the optic nerves and incomplete paralysis of both the abducentes (6th cerebral). The gingivæ had a line of bluish-gray on both maxillas. The diagnosis of chronic lead poisoning was made. Her condition became improved and she withdrew from treatment and examinations.

Three months later the woman was brought to the hospital in an unconscious state. This time the diagnosis was made of cerebral disease, and of inflammation of the optic nerves and of the abducentes in consequence of lead poisoning. Five days later the woman died. The postmortem confirmed the diagnosis, but from what source this lead poison came was not clear. Her husband and children showed no phenomena of such poisoning, and an occupational disease of that kind was not to be thought of, as she worked only at housekeeping.

Accidentally it came out that the woman four years ago became a great tobacco snuffer. She was in the habit of snuffing directly from the package, took pinch after pinch without control and in doing so comminuted the metallic foil of the package, which mixed with the snuff and became snuffed up unnoticed in the dark. In some untouched places the foil was corroded, thin and brittle.

As it was to be assumed that certain chemical qualities of the quite moist tobacco dissolved the foil which could pass over into the snuff and transmit lead to it, a number of packages were procured from the place where the woman got her snuff and submitted to a chemical examination. The result was that the foil was found to contain 89.9 percent of lead, and the tobacco of the different packages contained variously 1.75 and 1.9 percent of lead. The leadfoil of all the different packages was strongly attacked and in places very thin and brittle. The tobacco of the various packages examined reacted alkaline.

Inquiry established the fact that the woman consumed 37 ounces on the average per month, or 150 grains a day, corresponding to 8 drams of lead.

According to A. Lange ("Ueber die Beziehungen der Technischen und Gewerblichen Gifte zum Nerven System") the ingestion of 8 to 10 milligrams of lead every day leads to chronic poisoning. It is not to be assumed that the woman absorbed 175 milligrams lead daily, because a great part of the tobacco is lost in snuffing. But considering the quantities she snuffed up daily she certainly must have absorbed enough lead to poison her.—*Correspondenz-Blatt f. Schweizer Aerzte*, 1912, No. 5.

SAUERKRAUT FOR PINWORMS

The water obtained by boiling sauerkraut in water, is recommended for children to drink, several tablespoonfuls during the day, as a cure for pinworms. It has the effect of removing the pinworms with the evacuations. Of main importance, however, is to cleanse the parts about the anus after every passage, to guard against any stray parasite, and to anoint the parts with gray ointment or with a nitrate of silver salve, for the purpose of killing them off effectually.—*Pharmaz. Zentralhalle*, 1912, p. 820.

FIBROLYSIN IN ATROPHIC LUNG CONTRACTION

In cases of pleurisy and pneumonia where, after the inflammatory stage has passed, a gradual contraction of the affected places begins to develop, there has been, in the recent past, little to do or to expect either for physician or for patient. Recently the use of fibrolysin has given hopes of betterment and even of cure. A full dose of fibrolysin (0.2 centigram thiosinamin) in sterile solution is injected subcutaneously or better into a muscle, or, in urgent cases, directly into the blood current, once daily or every second or third day. In children the dose should not be less than half the above. It may also be employed in the form of plaster, to be absorbed. Fibrolysin suppositories are useful for administering the remedy to children instead of hypodermically. Internally administered fibrolysin seems to be least effective.

Its pharmacodynamic power consists in preventing the shrinking of cicatricial tissue, a and in loosening already formed cicatrices and bringing about gradually their involution. At the same time there takes place an as yet unaccountable general improvement of the health of the patient.

According to this, there is an explanation of the extremely favorable result of the case of Drs. Rothschield and Krusinger, confirmed by Dr. Stoelzner. The case was that of a 7-year-old boy whose right lung was shrinking after pneumonia, and which already had advanced to a curvature of the spine. The boy received, in the course of three weeks, ten full doses of fibrolysin, injected between his shoulders hypodermically. After one month the boy increased in weight 10 2-3 pounds, became free from feverishness, while shrinking and spine curvature no longer could be seen.—*Deutsche Med. Wochenschr.*, 1912, No. 6.

GLYCASIN

Glycasin is a salve consisting of stearic acid, alkali and glycerin, being of soft consistency, neutral, nonirritating, sterile, and yielding a turbid solution in water. Glycasin is preferable to the lubricating preparations consisting of glycerin and a little tragacanth, because it adheres well to the instruments, while it is preferable to those in which much tragacanth is used because it glides and smears better. It deserves preference over fatty preparations, because it does not hinder the effect of medicinal solutions after the instrument anointed with it have been introduced, or makes their application difficult.—*Pharmazeutische Zentralhalle*, 1912, p. 704, quoted from bulletin of Beiersdorf & Co.

MISCELLANEOUS ARTICLES

Frank Seaver Billings: A Tribute to a Great Scientist

THERE died at Sharon, Massachusetts, October 14, 1912, a man who only a few years ago startled the world by the announcement that he had discovered the germs of that much dreaded disease called swine-plague.

Frank Seaver Billings was born January 15, 1845, in Boston, Massachusetts. At the age of twelve he entered the Allen School in West Newton, his home state, where he studied five years. Because it was feared that he had inherited tuberculosis, his father sent him to sea in one of the several vessels which he owned. The young man followed the sea for eight years, but in 1870 went west to Michigan and worked on a stock-farm, where he remained three years, afterwards going back to his home in Boston. On November 6, 1873, he married Harriet Matilda Roulstone, and a son was born to them October 7, 1874. In the summer of 1875 he entered the Royal Veterinary Institute of Berlin, from which institution he took his degree. It was his good fortune at this time to study pathology under the late Professor Virchow. While in Berlin he met with a great sorrow in the loss of his son, who died January 4, 1879. After this bereavement Dr. and Mrs. Billings returned to Boston. On October 20, 1881, they were blessed by the birth of a daughter, Frieda G.

Dr. Billings practised his profession in Roxbury, Massachusetts, until 1883, when he again went to Germany to study bacteriology under Koch. He returned to America in 1885 and took a position in the New York Polyclinic. On the 12th of December of that same year he sailed again for Europe for the purpose of placing in the Pasteur Institute for treatment four boys who had been bitten by mad dogs. The results of this trip were successful. While at the Polyclinic in New York he received a call from the state of Nebraska and he entered the service of that state as pathologist and bacteriologist at the University at Lincoln.

In 1888 he went to Chicago and engaged in business with Mr. George Seavers for the manufacture of a virus, which Dr. Billings had discovered, for the prevention of hog-cholera. Owing to the opposition of government officials, however, the venture was not a success. In 1890 he went back to Nebraska, where he remained until 1893, when he resigned his position and returned to the East. Making his home first in Grafton and later in Sharon, both towns of his native state, he continued his scientific studies and research until his death. During his residence in Grafton, in 1895, he was the means of saving many thousands of dollars to the farmers of Massachusetts by his testimony on the question of tuberculosis in cattle.

The following words are a part of the tribute paid him by one writing to a local newspaper at the time of his death: "In Germany he had taken special work under the great pathologist, Rudolph Virchow, and was eminently fitted for the work in Nebraska to which he was called, and there he is credited with having been one of the first to get on the track of the antitoxin method of treating germ-diseases, which has since become so popular and so successful. He did much good work for the state in the study of animal diseases, and several valuable books from his hand were published by the University."

The most of us want some credit for the good we try to do in this world and when we are misunderstood and our motives maligned we are apt to be somewhat discouraged and embittered. Dr. Billings was no exception to the rule. He would have been more than human if he had been.

He still continued his studies, reading omniverously all the new books on biology and the kindred sciences, and I wish to bear witness that it was a great privilege to be admitted to the treasures of his mind.

Dr. Billings had received many honors. In addition to receiving his degree from the

Royal Veterinary College of Berlin, he was a member of the Royal Veterinary Association of the Province of Brandenburg; honorary member of the Veterinary Society of Montreal, Canada; member of the American Medical Association; member of the Gynæcological Society of Boston; honorary member of the Alumni Association of the Medico-Chirurgical College of Philadelphia; member of the Chicago Academy of Medicine; and a lecturer before the Chicago Veterinary College.

Dr. Billings was a man of tremendous energy, with a mind that sought truth for truth's sake. He was careful in his statements and never expressed an opinion on any scientific subject without having first considered it from every viewpoint. His writings were always based upon careful and original research. He did splendid work among the herds of cattle in Nebraska and taught the farmers how to protect their cattle from contagious diseases. His preliminary labors in conquering the swine-plague were extensive, covering a broad field, and have been used by his successors with good results. These researches have been modified by later experiments, until at the present time the inoculation treatment has been used without fear by western swine-breeders. The views first promulgated by Dr. Billings have been introduced as a stepping-stone in the treatment of nearly all animal diseases so far discovered.

As a lecturer, Dr. Billings was positive, basing his ideas upon his researches, thus giving all his addresses weight and interest. Many teachers are able to impress the thoughts which they have learned from their teachers or their books, but the teacher who can give from his own experience, observation and research is able to go further in the advancement of knowledge among his pupils. Such as the latter was the subject of our writing, and to his careful preparation for this phase of his life-work as a scientist we are happy to bear tribute. The same general impression is ours in regard to his writings, of which there were several books and pamphlets, and one unpublished manuscript for a book on religion bearing the title of "Gospel of Might." Perhaps he was best known as an author by his book entitled "Investigations on Swine-Plague," a most helpful and practical work for scientists, students, farmers, and stock breeders.

He was a close student of sociology and wrote a book giving a most interesting discussion upon one phase of the subject, this book bearing the title "How Shall the Rich Escape?" He was a regular contributor to medical journals and to many stock-magazines, and the editors and subscribers of these had many favorable comments to make upon his contributions.

During his later years many were able to visit him in his home and to learn something of his great personality. Those who were his friends bear testimony to the high and noble character that was his and the ideal life he led as a husband and father.

A character like his is not to be forgotten. His discoveries and works remain with us and are monuments to mark the progress of a faithful student, a great scientist, and an American citizen.

EUGENE S. TALBOT.

Chicago, Ill.

DOSAGE OF PHYSOSTIGMINE IN COLIC

In my note on the dosage of physostigmine [November, p. 1135], perhaps I should have placed more emphasis on the fact that the large dose was advised only for severe attacks of colic.

Physostigmine, like morphine, seems to be antidoted or its action suppressed by pain. Once I took an experimental dose of three granules (not 5, but 3) when there was no indication for it. It was just after a meal. In a few minutes I felt the sensation of swelling in the throat, which is the sign of saturation. Then excessive peristalsis started up in the stomach and intestines. Wherever the peristalsis-wave met an obstruction, as at the pylorus or when bending at the waist, or even when the thigh was flexed on the abdomen, the direction of the peristalsis reversed. Several times my dinner came up in my throat and had to be choked down again.

At the same time my mouth was flooded with saliva, so that I could hardly swallow it fast enough. I found that holding a piece of dry bread in the mouth till it was dissolved modified all three symptoms considerably. As soon as the bread was gone, they returned just as strong as before.

I do not know how long this would have lasted, for I soon got tired of it and antidoted the unpleasant effects of physostigmine with atropine. It took a fiftieth of a grain to make me comfortable.

I have employed physostigmine mostly in infantile colic. One granule on the tongue of an infant under one year does the business.

By the time the granule is dissolved, the colic is gone. It stays gone, too.

I doubt whether there is any real difference of opinion between Dr. Candler and myself on this subject. I certainly have reason enough to believe in the small repeated dose, as a general rule. But the single dose also has its advantages in selected cases.

Charles F. Morrison.

Apopka, Fla.

THE KIND OF HELP HE WANTS

Enclosed please find the renewal of my subscription. Your valuable journal is the one medical publication that I cannot very well do without. Each monthly issue brings me a whole mine of practical knowledge, the kind that is not found in the textbooks.

I derive immeasurable help from the articles telling of how others have failed. This is just what most of us fellows need. We too often hear of the man who has been successful (?) in all he undertakes. The majority of us do not belong in his class. We want every obstacle and pitfall along the roadway of medical practice plainly labeled, so that those who come after may avoid them. This is the kind of work your journal is doing.

Martin E. Shultz.

Punta Rossa, Fla.

HINTS ON SURGICAL PRACTICE

Never confine old people to bed very long. This, because of their tendency to fatty and dilated heart and liability to hypostatic congestion of the lungs.

Never use a hypodermic syringe upon a patient in the secondary stage of syphilis. [Hypodermic medication is much employed in syphilis. Perhaps Dr. Pitkin wishes to advise against using the syringe successively upon the syphilitic and nonsyphilitic.—Ed.]

Never permit a wet-nurse to be employed without first examining into her history and state of health.

Never permit a healthy wet-nurse to suckle a syphilitic child or a child of syphilitic parents.

Never be hasty in suspecting "malingering" about any disease, and certainly never in head injuries.

Never neglect to bandage carefully the *entire* limb, if you have encircled the member at any one point to keep up pressure upon a wound.

Remember that three drugs are tolerated well in proportion to the need for them, namely, opium, mercury, potassium iodide.

Always inject ergotin or mercury into a muscle, but morphine or brandy under the skin.

Never inject morphine without first testing the urine for albumin or low specific gravity.

Never leave a sprain too long at rest. Prolonged inaction is by far the most frequent cause of delayed recovery after injury of the joints.

Avoid cathartics, deprivation of nourishment, and loss of blood (by incision) in the weak and brokendown.

Remember that drunkards, children, and patients with jaundice or splenic disease bear loss of blood very badly.

Be careful of opium in delirium tremens when the pupils are contracted.

F. A. Pitkin.

Palmyra, N. Y.

SEXUAL PERVERTS AND THE LAW

Returning recently to this city, after an absence of some few months, I visited several places of interest in Chicago, and among them I dropped into the criminal court for a few moments. One of the state attorneys was delivering his closing address to a jury in a trial. I leaned eagerly forward to hear what he had to say; for one can often learn a great deal from such an address.

The case was that of a man accused of rape upon his own daughter, fourteen years old, or thereabouts. Not having been present during the testimony of the witnesses, I did not learn the details of the case, but I got the summary and heard counsel's arguments.

The state attorney, his eyes flashing with righteous indignation, and in a high resonant voice, pictured the accused man as a bipedal brute who, instead of protecting his child of tender years, not only had outraged the laws of nature, but violated the laws of the state, for both of which he should be punished.

The defending attorney, just as vehemently, agreed with his opponent that if the accusation were true the defendant should be severely punished, but insisted that such a crime was incredible—it could not exist among civilized people. He admitted that the defendant had confessed his guilt at the police station, but declared that if he had done such a thing it must have been under the influence of drink, when he was ignorant of the wrong he was committing.

After five minutes of instruction by the judge, the jury retired to consider the case, and, as I sat quite near the defendant, I took occasion to scrutinize him very closely.

Although I am not a criminologist, I could plainly see that he was a fit subject for an institution for the insane. He had none of the earmarks of a criminal. Any layman could have told the same story by merely looking at him.

In a few minutes the jury returned with a verdict of guilty, and fixed the man's punishment at imprisonment in the penitentiary for the rest of his natural life. I watched for any commotion—none. The prisoner stood as though nothing had happened, just as though his case had been continued for trial to another day. The jury was discharged, and some of them came and sat among the spectators. I looked them over, and they seemed to me to feel very complacent over their performance.

This case is typical of the miscarriage of justice that is going on daily in our criminal courts because of the ignorance of judges and juries in matters of mental pathology. There is no question in my mind that this man was suffering from a disease of the brain—a volitional insanity, which—while it permitted him, like many insane persons, to talk and act normally on all ordinary occasions—during the attack deprived him of the power of inhibition, and thus virtually cancelled his sense of right and wrong.

The very nature of the crime with which he was charged is almost enough of itself to indicate his insanity. It is preposterous to suppose that any man, in this twentieth century and in this civilized community, would deliberately and volitionally commit such an act over and over again with his own minor daughter (it was shown that his relations had extended over two years previous to his trial) and then calmly confess to the crime. Had the jury known anything of the literature of sexual perversion or had there been any *amicus curiae* in court to advise them on the subject, they would doubtless have dealt very differently with this mindless, irresponsible subject. The records are full of just such acts performed by irresponsible sexual perverts.

I repeat, this man was not, and is not, a fit subject for imprisonment in the penitentiary. He should have been sent to an asylum for the insane, among whose inmates my own experience as an interne in such institutions has shown me there is a large proportion of sexual perverts. I reiterate, also, that this case is representative of similar blunders that daily discredit our criminal courts. It is high time that some systematic plan be adopted for dealing with such cases in a scientific, intelligent, and humane fashion.

SOL GOLDEN.

Chicago, Ill.

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[The whole question of the relation between criminality and mental responsibility is an exceedingly vexed and difficult one. As between the view which holds all men to be the helpless victims of heredity and circumstance, with their lives irrevocably and inescapably marked out for them, and that which holds them personally and absolutely responsible for every secret thought, whether it be good or whether it be evil, there is a regular sliding scale of degrees and proportions; and just where the element of mental responsibility slides out of existence—or, at least, becomes submerged in the other elements—is very hard, indeed, to say.

Especially does the question of impulsive insanity present a practical problem of great difficulty. From the purely medical standpoint, no doubt, it is simple enough. So are fits of anger. So are the condition and conduct of a man under the influence of drink. But from the sociologic, legal standpoint, none of these cases are nearly so simple. In types of insanity where the capacity to know the nature and quality of an act is clearly and continuously absent, the matter is simple enough, even for the law and society. But where the will enters into the equation at all, there the problem is a nice one. In those cases we must assume some degree of workable responsibility in the individual; the essential aim in his treatment must be determent and correction; and punishment, in some form or other, is one of the most effective factors in bringing about this end.

The subject referred to by the author, I think, can hardly be classed among the victims of impulsive insanity. His crime, which extended over two years or more, did not consist in uncontrollable explosions of passion, regardless of the object on whom they were wreaked, but rather in the repeated, dogged performance of an unnatural sexual act. If, therefore, as seems likely, he was a sexual pervert, it is reasonable to believe that his perversion was an inherent, biological taint which no known treatment could eradicate. Practically, therefore, in his particular case, it would not make so very much difference whether he spent the rest of his days in an insane asylum or in a penitentiary. Possibly he would furnish a good case for the modern procedure of asexualization. I question, however, whether such treatment would do more than to divert his perversion into other channels.

In the main, however, Dr. Golden is doubtless right. The treatment of perverts and criminally insane needs radically reforming in the light of modern science. And, by the same token, so does the treatment of crime and the criminal in general. It needs that there should be more intelligent cooperation between the various phases of society—including the medical phase—in dealing with the matter.—Ed.]

FOOD ADULTERATION: A CRITICISM

I am surprised at the appearance, in your valuable journal, of the articles written by Charles F. Lynch, D. V. S. There is nothing absolutely untruthful in Dr. Lynch's statements—or rather the untruths that he utters are of minor consequence—but the deductions likely to be drawn will have a bad effect upon the public mind.

The adulteration of foods by no means is of such frequent occurrence as Dr. Lynch assumes, while those that he mentions have been largely done away with. For example: no such thing as "iron brew" is being sold in Illinois at the present time, nor has it been sold within the last two years. Further, the bogus ice-cream, the formula for which, he states, was sold to the trade not long ago for five dollars, could not possibly be offered for sale now anywhere in the country, nor the formula find a purchaser.

It is not possible to make a categorical denial of all the things he asserts, as a whole; for some of his statements are true. Thus, for instance, capsicum is used in the manufacture of ginger-ale in Chicago, under a ruling of the food commission, according to which it is proper and the fact need not be declared on the label. Also, many organisms can be found in ice-cream, as well as in milk and in cream not frozen. These things do not mean anything to an intelligent informed person. But there is a likelihood of their coming to the attention of the laity, and, appearing in an authoritative medical work, may give rise to gross misinterpretation.

If Dr. Lynch meant to say that cocaine appeared in coca-cola, he is "off his base" There are some imitators of coca-cola who have, indeed, added cocaine. Coca-cola is a trademarked name, meaning just one thing, and it contains none of the active alkaloid derived from the coca leaf.

Dr. Lynch's statement, that the Referee Board has condemned saccharin, is an example of a minor untruth. He probably had not read the decision.

I might state, in conclusion, that the danger of poisoning from salts of lead in carbonated beverages has been entirely eliminated in Chicago, as a result of the agitation referred to by Dr. Lunch, and of the investigation in which he participated. It seems unfair to revamp that circumstance or even suggest that conditions of that kind are prevalent now.

H. B. Meyers.

Chicago, Ill.

[Mr. Meyers being the editor of *The American Food Journal*, his letter is of peculiar interest. We have given Dr. Lynch an opportunity to reply and his communication follows.—Ed.]

Dr. Lynch's Reply to Editor Meyers

The object of every truly up-to-date manufacturer of foods should be the manufacture of pure products, and the education of people—yes, even of the layman, as well as the professional man—to demand that their dealers supply them with products that are above criticism. There was a time when dealers and manufacturers were opposed to the education of the public along these lines, but today the man who is really doing an honest business in pure goods wants the public to know what to expect and how to detect the fraud in the goods of a dishonest competitor who, by the addition of dyes, saccharin, preservatives, coal-tar derivatives, and by other improper practices, is enabled to put out goods at prices which no honest dealer can approach with a fair margin of profit.

Mr. Meyers' communication is so entirely foreign to the modern trend of opinion that it seems a loss of valuable time to give it more than passing notice; but for his own information I will take up a few of his statements and compare them with the facts.

For instance, Mr. Meyers states that there is no extensive food adulteration now going on in the lines I have discussed in my articles! This is a very optimistic statement, in the light of the facts, which in part are as follows:

In the year 1911 the Illinois Food Commission examined 100 samples of butter, renovated butter, and oleomargarine, and found that 37 samples were legal, while 63 were illegal. No, Mr. Meyers, there is no adulteration at all going on in these lines! Do you think the state of Illinois is wasting money in taking samples when only 63 percent of them are found adulterated or sophisticated?

We might take a look at the beverages, also. The Illinois Commission examined 62 samples in 1911, and 35 of these were found illegal. It is true, perhaps, that since the prompt action of the Chicago and Illinois health officials in closing up a Chicago pop-factory, putting out a lead-laden product, the Chicago manufacturers have been a bit more careful. But the same degree of caution does not appear to have seized upon dealers in other parts of the state, as witness the finding of lead in samples of beverages originating at Belvidere and Elgin. It would seem almost pitiful that the medical profession, or even the laity, should need to be told that such a danger exists.

It is true that coca-cola does not contain cocaine, but how about caffeine? Should American children be allowed to drink caffeine-laden beverages without restraint? This is a question to be considered.

In another brilliant passage Mr. Meyers makes the astounding statement that to the "intelligent" person the presence of many bacteria in milk or ice-cream has no significance. In this singular position he is at variance with practically all our public health-officials and the general consensus of modern medical opinion. Twenty-seven million bacteria per cubic centimeter in ice-cream, many of these being pure strains of virulent streptococci—does this mean nothing to the intelligent mind? What do the readers of Clinical Medicine think?

To any physician, statements such as these made by Mr. Meyers relative to the bacteria in milk and milk products would be humorous, were it not for the grim facts that stare us in the face every summer in the form of hundreds of solemn processions, each behind a little white coffin, each holding the body of an innocent who has been the victim of these same bacteria the presence of which means nothing to the intelligent mind! Herod's slaughter of the babes pales into insignificance alongside the ravages witnessed every summer in our own cities as the result of bacteria-laden milk, and this without any referecne to the possibility of the transmission of tuberculosis and typhoid-fever through the products of careless dealers.

As to the fear that the laity may become aware of the frauds that are being practised upon them in the food industry, that would, indeed, be a sad state of affairs! This is one of the arguments advanced by many dishonest dealers when they are brought to account for violations of the Pure Food and Drugs Law. They claim that the fraud has been practised so long that it is an infraction of their rights to object to it!

Charles F. Lynch.

Chicago, Ill.

PERNICIOUS VOMITING OF PREGNANCY

Permit me to avail myself of your invitation in the November issue of your esteemed journal to those of your readers who might have a word to say on the subject of vomiting of pregnancy.

The literature of this condition is very voluminous. This was again demonstrated by Dr. C. B. Ingraham, of Denver, who read at the last session of the American Medical Association in June, 1911, a lengthy paper on this subject and quoted sixty-three publications. But neither he nor any of those who took part in the discussion mentioned the most rational, the physiologic remedy in cases of reflex vomiting of pregnancy of which I have spoken repeatedly in different journals and especially in my book "Carbonic Acid in Medicine." I published my observations in the year 1884, and Adrian Schueking gave his experience with the same remedy in the year 1885.

The remedy is carbonic-acid gas douches applied into the vagina or into the rectum by means of a gas-generator which I have introduced. The anaesthetizing[1] of the gas will, as I and Schueking (independent from me) have demonstrated, arrest reflex vomiting.

Reading the correspondence on vomiting of pregnancy in the last numbers of your journal, I was, as I have been too often, disappointed, because no reference to this method was given.

And this remedy is simple and it is harmless, but there exists a ghost story, on account of which it is not accepted, on account of which it is not even spoken of. I may be permitted to quote from my book mentioned something about this ghost story.

Early in the year 1884 I was called to a neighboring city as a consulting physician in a case of incessant vomiting of pregnancy. All the usual remedies had been tried in vain. I suggested the application of carbonic-acid gas douche to the os—this being a case of reflex vomiting originating in uterine neurosis—but my suggestion was not accepted.

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[1] I beg of you not to print anesthetizing, because that means undressing. Anaesthesia means insensibility, but anesthesia means without clothes or nudity. Anaemia is poverty of blood; anemia (from anemas, the wind) is inflation, anemia is windy.

It happened that my colleague, a great, well-read gynecologist, believed in Scanzoni's nightmare of contractions of the uterus and the danger of abortion if carbonic-acid gas was employed. The error of Scanzoni has been exposed by many physiologists, by gynecologists; it has been demonstrated over and over again that carbonic acid introduced either into the vagina or into the rectum will never cause uterine contraction, will never produce abortion, how often or how long you may try. I myself have had a case in which a pregnant woman, in consequence of a misunderstanding, made daily carbonic-acid gas douches every day during the first three months of pregnancy, without any unpleasant effect to herself or the embryo, without interruption of the pregnancy.

In the book quoted I have given the history of Scanzoni's error and spoken of as experiments made on pregnant animals to prove that Scanzoni was mistaken. Scanzoni is dead, but his error haunts us yet. It seems inpossible to bring it out of the heads of some physicians that carbonic acid is not a means to produce abortion. While carbonic-acid gas douches do not cause uterine contractions, they are, besides arresting vomiting of pregnancy, an excellent remedy in case of scanty menstruation or amenorrhea.

A. Rose.

New York, N. Y.

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[We are always glad to hear from Dr. Rose, because he invariably has something worth saying. We have not forgotten his suggestion of some years ago relative to the use of carbon-dioxide gas douches for the relief of intractable vomiting. If we had such a case that resisted other methods of treatment we certainly should try it. However, the use of alkalis, as recommended by Blodgett, is based upon sound logic and the alkali is so easily administered and so effective in many instances that we may be pardoned for considering this remedy first when the indication for it is clearly present.

As to Dr. Rose's gentle reproach anent the spelling of the word "anaemia", we shall have to dissent as gracefully as possible. With all due deference to the classic origin of much of our language, may we not point out that the tendency is to "shorten, concentrate, Anglecize and Americanize," thus making our written words simpler, easier to learn and easier to use.

"Anemia" is an English word—*not* a Greek one as we employ it. It must yield (and so must our Grecian, in spite of his classic affections) to the iconoclastic (because clarifying) tendencies of the times. Time was when we (or rather our ancestors) used to refer to aera, aether, coelestial, oeconomy, foetus, foederal, and many other such words now relegated to the limbo of anachronism. Three-fourths of the ae's and oe's have already been dropped, the rest are disappearing rapidly; and we are but following the guiding hand of common sense in adopting the simple e. So we see it—with the highest respect for the fine scholarship of Dr. Rose.—Ed.]

THE TREATMENT OF PAROTITIS

Some three weeks ago I was called to the country to see a young man, aged 24. I found the following condition:

Temperature 104.2, F., nausea, excruciating pain in both testicles, and he said every bone in his body hurt. Although the parotid glands were not involved I suspected mumps. Upon inquiring I found he had been exposed two weeks before. He had been working in a ditch and got his feet wet.

I gave a hypodermic injection of morphine and atropine to control the pain, a saline laxative to move the bowels, following with aconitine, sodium salicylate, echinacea and calcium sulphide.

Now comes the part of the treatment I wish to call particular attention to: What shall we do for those congested, inflamed and painful testicles? Make a paste of bismuth subnitrate and cold water, spread on a soft cloth and apply. In three or four hours the pain and swelling will all be gone—and it was!

I have used the bismuth for years in all inflamed glands, and I never knew it to fail. Don't forget to try it the first opportunity. The above case made a speedy recovery and was out in the harvest field in ten days.

David C. Roney.

Ridgeville, Ind.

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[In parotitis calx iodata, phytolaccoid, and irisoid should always be given. We believe these drugs could have been beneficially substituted for the sodium salicylate and echinacea in the cases described. Guaiacol, one dram to one ounce of a mixture of vaseline and lanolin, makes an excellent local application. The guaiacol ointment may advantageoulsy be applied to the testicles, or one part of belladonna ointment to three of carbenzol may be used first, and the guaiacol later. The scrotum should be supported. Gelseminine may be pushed in comparatively full doses. It is a little difficult to see how a paste of bismuth subnitrate could reduce testicular congestion, as the drug is not absorbed by the unbroken skin.—Ed.]

BILOXI'S BILATERAL BUMPS

Notwithstanding his laborious efforts directed toward the advancement of science, it is extremely probably that the name of Dr. William Biloxi would have died with him had not a fortunate chance or circumstance otherwise directed.

Not all of us are born great; a few of us have greatness thrust upon us, but occasionally one of our illustrious profession, though painstaking effort and peculiarly lucid observation, becomes truly great and is so recognized by the scientific world after he is dead. And such a man was Dr. Biloxi. It is, therefore, with peculiar pleasure that we, as his biographer, are able to say that his name will always be illustrious, and that it was given to us to tell how it became so.

It will be remembered by many that Dr. Biloxi, independently of Ernst Haeckel, announced (May, 1904) as a basic law that, briefly formulated, "things are as they are, because they can not, without vast cosmic disturbances, conveniently be otherwise"—a conception, however, the effect of which was minimized at the time by a wave of dualistic philosophy which swept scientific circles. Also (in 1905) Dr. Biloxi discovered a method whereby sound vibrations passed through chromogenetic crystals could be transformed into light-waves and projected onto a screen in colors. It will further be recalled that at the first private demonstration of the discovery before a body of noted scientists the "Miserere" from "Trovatore," rendered by a famous orchestra, was exhibited, but to Dr. Biloxi's great sorrow the chromatic audition was so pronounced, somber, and depressing, that a few of the judges had to be restrained in sanitaria for months afterward; and its furtherance was forbidden as a public menace. Still, in spite of these partial failures, Dr. Biloxi continued his work and investigations.

From his voluminous notes and writings which lie before us we quote as illustrative of the character of this remarkable man:

"Oh, to have been the first who thrust a broom-splint through the foramen of Vesali and saw it protrude on the other side; or have explored the foramen of Winslow and had it named for me; not even Magellan as he steered his devious course through the strait could have been so proud! But the anatomical field of discovery is barren. I must go farther afield. I will await the time when something presents itself, then I will describe it with methods for its successful jugulation, with copious notes and references (should there chance to be any) and then; ah then, will the name of Biloxi be famous."

Such were the laudable aspirations of this man. Their fruition occurred in the manner now to be described.

In one of his talks with his friend, the professor, he had heard that learned gentleman speak of a Chinese laundryman as a xanthochroous heathen. The adjective sounded sonorous and good, so the doctor looked it up in Gould's against the time when he might like to use it himself.

By the merest chance (on such slight things does human destiny hang) he idly turned another leaf of Gould's admirable work as that colossal conglomeration of plentiful fact and desiccated definition called the "Dictionary of Eponymic Terms" lay before him. That he never before had explored the dictionary, we cannot affirm; that on this occasion he perused it as if it were the most exciting romance, we have his word. Like a half-starved horse seeking nutriment from baled shavings, a most unpromising source, he fairly devoured it.

"Absolutely the most unique and delightfully quaint bit of medical literature (to distinguish it from medical fiction) we ever encountered." These were his very words. "Bless me! here is Banti's disease we heard about somewhere"; and he read the definition: "Banti's Disease—Enlargement of the spleen, with progressive anemia and hepatic cirrhosis."

"Now, that shows how a little learning may be a dangerous thing," soliloquized the doctor. "I always thought Banti's Disease was the trouble induced by following Banti's Obesity Treatment, Gould sets us right, as always. The definition does not say Banti had an enlarged spleen and cirrhotic liver, but he certainly must have been the very first to observe this condition in others. Let us investigate this further."

"Abadie's Sign"—Spasm of the palpebræ in goiter.

"Anderson's Alopecia"—Baldness observed after the age of 70.

"Andesey Leg"—A kind of artificial leg.

"Alcock's Plaster"—A patent porous plaster, erroneously supposed to have been invented by Dr. Alcock.

"Aviator's Aphasia"—A new form of vocal paralysis, said to affect aviators when a biplane buckles.

"Beard's Disease"—Nervous exhaustion.

"Marvelous!" exclaimed the doctor. "What trained powers of observation and exquisite art of logical definition these men had."

"Bastock's Catarrh"—Hay-fever observed frequently in trained wild animals. Supposed to be caused by the animals standing on their heads so much, with consequent congestion of the Schneiderian membrane. (Vide Schneider.)

"Dingbat's Dragees"—Sugar-coated pills invented by Dr. Dingbat.

"Drummond's Sign"—The oral whiff, not an odor, but a sound heard when the mouth is closed, and disappearing on compression of the nostrils; observed in aneurism of the aorta."

"Now, what do you know about that?" said the doctor. "A 'whiff' becomes a sound when the mouth is closed, and disappears on compression of the nostrils. Seems to me it must be an odor, after all. Perhaps Drummond was mistaken; some have been." (Right here let us say, Dr. Biloxi under strong excitement sometimes dropped into the vernacular—with one less gifted it would be called using slang, with Dr. Biloxi it was simply an eccentricity of genius. We apologize for being his apologist.)

"Goodell's Law"—"When the cervix is as hard as one's nose, pregnancy does not exist; when it is as soft as one's lips, pregnancy is quite possible."

"I must make a mental note of that fact," said the doctor, and he closed the book, and his eyes at the same time, the better to fix indelibly in his mind all the details of this wonderful law.

Carelessly his hand fell to his knee. How wonderful is the association of ideas! Think of a delicately browned pretzel powdered so generously with crystals of chloride of sodium that your throat is fairly parched. What! Correct. You guessed it the first time. But we disagree. It was at this precise moment we have been informed by Dr. Biloxi that the remembrance of the peculiar fact, the description of which was to immortalize him, slowly yet grandly and irresistibly forced itself from the dim chambers of his subconscious mentality and became a burning, living truth in that portion of his brain he used every day.

To seize paper and pencil and, in his clear, concise and conscientious manner, name, describe, and definitely define this wonderful discovery was the work of but a moment; to make it known to the Powers that Be, the work of a few hours.

Recognition was compelling and immediate and in the very next edition of the "Dictionary of Eponymic Terms" might have been seen, and no doubt has been seen, by envious thousands the following:

"Biloxi's Bilateral Bumps—Ecchymotic spots on the inner lateral aspect of the knees, observed in thin people. Caused by pressure of one knee against the other while sleeping. Usually seen in the morning."

And thus, as we said in the beginning, it is extremely probable the name of Doctor William Biloxi would have died with him, had not a fortuitous chain of circumstances otherwise dictated.

A. H. Southwick.

Limestone, N. Y.

PRENATAL LIFE UNDER "TYING" CONDITIONS

Many a time I have seen twists and kinks in umbilical cords, as well as one or more coils of the cord being around the neck or other parts of the body of the infant, with no ill effects to the latter. But about two years ago I had to deal with a condition such as, up to the present, I have never known to have a parallel.

In this case, the position of the child was normal, being a left occipitoanterior. The delivery was not extraordinary, but on examining the cord and *before severing*, I observed a complete knot six or eight inches from the child. The striking picture in the case was that the child was living and had apparently suffered nothing from the condition.

Quite likely early in uterine life the embryo had floated through a coil of the cord, while doubtless the placenta was attached sufficiently low so that during delivery the knot was not drawn tightly, consequently the fetal circulation was permitted to proceed uninterrupted.

Reid Owen Howser.

Chicago, Ill.

[True knots are occasionally observed, but usually are harmless, since the constrictions rarely are tight enough to completely obliterate the lumen of the vessels. They are due, of course, to the fetus slipping through a loop of the cord, and the process may even be repeated either during pregnancy or while the child is descending in labor, resulting in a double knot.

Barton Cooke Hirst cites a case of his own observation in which the cord showed a true figure-of-8 knot in the case of twins in a common amniotic cavity. In twins, knots are apt to be far more serious and more complicated; knotting of the two cords may occur if the knots are drawn sufficiently tight so as to shut off the placental blood supply completely. The life of the fetus is endangered, of course, and eventually sacrificed.—ED.]

SOME DON'TS REGARDING HABIT DRUGS

Having had nineteen years of experience in the work of treating the drug- and liquor-habits, and—I am sorry to say—the large majority of my patients coming from the medical profession, I feel that possibly I can present a few pointers gained from experience under the head or title I have chosen, which, if you will give me space through your columns, may be the means of benefiting the few, if not the many, and not alone the profession, but the ones as well that may come under their care. Hence the title. First, I would say:

Don't forget that all habits are soul education or subjective mind training through the objective or sense mind.

Don't forget that you are only human and that drug-habits will fasten themselves upon you just as readily as upon your poorest patrons, and will make you just as much trouble and expense in freeing yourself from their bonds as they will others, since not one percent can quit drugs without help.

Don't forget that narcotics and stimulants are habit producers, or callers out of reserve energy; the use of this reserve energy is like borrowing money from a bank. It must be paid back and the interest is a mighty high rate.

Don't forget that when you give a narcotic you have blinded your eyes to the true condition of your patient, since pain is the language of the soul, telling you where the trouble is located. The soul is calling for help, the same as hunger, also in the language of the soul, calls for sustenance to rebuild the body.

Don't forget that, if you are once addicted to the use of some drug no matter how complete the recovery may seem to be, you are never quite as free as before. With the least excuse, you are ever after subject to the same slavery, be it five, ten or any number of years later.

Don't forget that any opiate enslaves, be it morphine, codeine, heroin, laudanum, paregoric, Dover's powder, plain opium or Mrs. Winslow's soothing syrup. You can substitute any one for the other in proportionate doses. Opium is "king-bee" among the habit-forming drugs and may be substituted for any or every other drug.

Don't think you can give any opiate, no matter how well disguised, to a patient who has once been addicted and he not know of it. He can tell it as readily as he could a shock from a strong electric battery, even though ten or more years had elapsed since his "cure," and the nerve call for the drug will begin at once and but few can resist it. Hence be careful.

Don't forget that to have a liquor habit fastened upon you is a thing you cannot afford, since it means sacrifice of everything, with degradation and perhaps the poorhouse or the insane asylum at the end. Don't forget that any opiate is much worse than liquor and that it requires much more time and money to get free from its bonds than the latter.

Don't forget that a cure for the morphine habit cannot be accomplished by the prescription that is given by many physicians, which consists simply in the suggestion: "Why, if you do not want to use it, just quit." If you think you can do this, try something easy first. Stop your tobacco. You cannot do that. Try it. I say you can not and stay free from it and the Lord have mercy upon your family while you are trying.

Don't think that, if you are addicted to liquor, you have gained anything by stopping liquor and using morphine in its stead. You have jumped from the frying pan into the fire.

Don't think that all men who advertise cures for drug or liquor habits have one. I would advise anyone seeking assistance to investigate thoroughly before placing absolute confidence in any man. If an institute will not bear investigation even to the extent of seeing patients under treatment, that is the one you do not want to go to, expecting a cure.

Don't think for one minute you will ever find a "home cure" for any opium habit. These are made to sell, not to cure you with. The liquor habit can be cured at your own home providing some of your medical friends see to it that you use the remedies directed, and you, yourself, want to be cured.

Don't think you must suffer untold agony in order to be cured of the drug-habit, for there are a few places where you can be cured without sickness or suffering.

Don't go to a "cure" where they cure in three days. It may require three years or longer to recover from the "treatment" given.

Don't go to a "cure" and leave with a bottle of medicine as a tonic to take to "build you up," for usually it contains dope of some kind, and when stopped you are no more nearly cured than before you went there.

Don't think for one minute that you or anyone else can be cured by a substitutional treatment, for a substitute is just as bad as the real thing. The only proof of cure is that you have to take nothing more for relief. Yes, nothing.

In conclusion, let me say, don't forget that an ounce of prevention is worth a pound of cure; and don't forget, further, to establish in your mind and for yourself this motto: "A slave to nothing or to nobody."

C. E. PATTERSON.

Grand Rapids, Mich.

THE DIAGNOSIS AND TREATMENT OF ECLAMPSIA

A. J. Skeel (*Cleveland Medical Journal*, May, 1912) deprecates the rather loose mode of speech according to which eclamptic seizures during gestation, labor or confinement are said to occur without warning, and he claims that, as a matter of fact, no eclampsia probably does occur which does not give preliminary signs of its onset to a careful observer. The author differentiates between the nephritic and the hepatic types which often are associated, since degenerative processes occur both in liver and kidneys in eclamptic toxemia, but nevertheless either one or the other may predominate.

The nephritic type in which marked albuminuria, high blood pressure, and extensive edema occur is frequently easy of early diagnosis and offers a more favorable prognosis. In these patients the renal deficiency probably is relatively greater than the damage in the liver.

In the hepatic type, on the other hand, the entire renal group of symptoms may be inconspicuous—albuminuria slight, blood pressure low, edema scarcely noticeable. These cases fortunately are much more rare. It is these that are apt to deceive us by the apparent mildness of the condition, until after a few days of slight symptoms the patient develops sharp headache, dizziness, and convulsions of the severest kind, all within a few hours. These are the cases, too, which most frequently terminate badly in spite of treatment.

Of all the clinical warnings, especially in the nephritic type, albuminuria is the most uniformly present before onset of convulsions, and the author claims that with proper care albumin can be found within twenty-four hours of the appearance of the spasm in certainly 95 percent.

Next in order of frequency and reliability is the rise in blood pressure, and perhaps next the most common symptom is occurrence of edema. These three symptoms—albuminuria, rise in blood pressure, and edema—appear all to be associated with renal deficiency and usually are grouped. When one of these symptoms is marked, all of them are likely to be marked; and the reverse.

In a patient with normal kidneys before pregnancy, the persistent albuminuria, even if slight, is of greater importance than a larger percentage of albumin that disappears readily on treatment. In the routine clinical work with urine, the continued control of the 24-hour amounts, the specific gravity, the quantity and persistence of albumin, are of importance.

Next to the continued urine testings, blood-pressure readings should be made regularly and the presence of edema be looked for. Aside from this, the occurrence of headache, nausea, disturbance of vision, vomiting, dizziness, epigastric pains, etc., are of importance. Further, albuminuric retinitis, edema of the optic disc, and increase of leukocytes may be present, and, if so, are suggestive, although their absence is of little importance.

In regard to treatment, the author maintains that the fetus participates proportionately in the degenerations occurring in the maternal organism and that, therefore, the interests of the child are the same as those of the mother.

Whenever under reasonably vigorous treatment of elimination the mother does not improve, labor should be induced. As a whole, the further advanced pregnancy is, the less the attendant need hesitate to induce labor. Near to term, labor may be induced on relatively slight indications, but before doing so, no matter at what stage of pregnancy, it is important to secure vigorous elimination for a short time before, in order to diminish the accumulation of convulsion units previous to the strain both upon mother and child entailed in the process of parturition. This will remove her as far from the danger of convulsions as possible.

On general principles, that method of delivery should be chosen which will empty the uterus most expeditiously. When the patient is allowed to deliver in the normal way she is put to excessive physical endurance. If the cervix is already opened, the forceps or version will deliver in a relatively short time and avoid hours of physical labor. If the cervix is closed and unprepared for labor, the author holds that vaginal or abdominal section offers the right means of emptying the uterus rapidly; he claims that the high mortality after abdominal cesarean section for eclampsia is due to the fact that the procedure was resorted to as a last resort and holds that if done at the time of selection the operation is of comparatively slight danger.

As to the anesthetic, none is needed when the patient is in coma, while patients in partial coma interrupted by convulsions should have morphine and perhaps a little anesthetic. Chloroform appears to be the least desirable anesthetic, because of its effect upon the liver. Ether is probably preferable to it, or nitrous oxide would be the anesthetic of choice in eclamptic conditions.

In regard to the medicinal treatment, the author warns against undue continuation of hot-packs for patients who do not perspire, lest heat-stroke occur. The hot-pack should not last longer than thirty minutes, should not be repeated oftener than once in three hours, and its use should be controlled by its effect on pulse and temperature. In some patients who do not bear complete hot-packs well, a large lumbar pack seems to have a favorable effect; except in patients with immense edema the use of normal salt solution will stimulate renal secretion and favor perspiration. When the tissues are already water-clogged, bleeding often proves beneficial, and this may be followed by the administration of normal saline solution.

Catharsis may be very difficult to induce but often will follow promptly if the desired medicines are introduced by the stomach-tube after irrigation of the stomach.

During the entire treatment the convulsion must be controlled, and for this purpose the author depends upon morphine in moderate doses—1-6, 1-4, or 1-3 grain hypodermically and repeated as necessitated by the recurrence of convulsions. Parenthetically, we may remark that the hyoscine, morphine and cactin compound is preferred for this purpose by those who have used it, since it controls the convulsions without tying up the secretions as morphine alone does.

In all measures taken for the relief of eclamptic patients, the keynote is elimination, and this must be secured at all cost short of killing the patient. The eclamptic patient requires the closest attention and will not let her physician divide his efforts with any other patient; but with deliberate and sustained efforts, it will be possible to guide many apparently hopeless cases through this terrible condition and to save their lives.

"ANXIOUS," GIVE US YOUR NAME

If the physician who addressed CLINICAL MEDICINE and signed himself "The Anxious," asking assistance in the case of Mr. J., afflicted with mitral lesion and hemiplegia, will forward his name and address, it will give us pleasure to advise him.

AN UMBILICAL PAD

My attention has been called to the various designs for "umbilical pads" for newly born children. The only really effective pad that has proven satisfactory in my practice is a leaden bullet or a marble (the bullet preferred) about five-eighths of an inch in diameter, covered, ball-fashion, with chamois skin and attached to the center of a piece of surgeon's adhesive plaster about 3 1-2 or 4 inches square (or in diameter, if a circular piece is used), the plaster being incised from the outer edge toward the center in several places, to admit of its being applied smoothly. Let it remain in place for a month or longer, as may be necessary. The integument will close in around the attachment, as if it were around the stem of a cherry. It can be readily removed.

GEORGE D. STANTON.

Stonington, Conn.

"WOMEN AS ANESTHETISTS"—A REPLY

In the September number of THE AMERICAN JOURNAL OF CLINICAL MEDICINE (page 952) there appears an article entitled "Women as Anesthetists." I cannot pass by this article and the editor's comments without a word of protest.

A *well*-trained nurse may give an anesthetic better than an *un*-trained physician, but I can not agree with the idea that women make better anesthetists than do men.

The administration of anesthetics has been much neglected in the past, but at the present time there is a great improvement in this respect over what it was a decade ago. How many of our medical colleges are today giving practical instruction on this subject? It is a fact that the medical profession has not looked upon this work as of much importance. Anesthesia has in a large measure contributed to the success of modern surgery, and it is the duty of the profession that due credit be given.

There are many physicians who have served an interneship in a good hospital and are well fitted for this work. These men are willing to do this work, provided they are paid in proportion to the fee which the surgeon charges. It is unreasonable to expect that much interest will be shown in this work for a fee of five dollars, regardless of the operation or the time required.

I wish to protest against the practice of having nurses administer anesthetics. The chief reason, I believe, is a financial one, and not because the women do or can do the work better than physicians. Because certain well-known surgeons in different parts of the country employ nurses to give their anesthetics is not a good reason why the profession in general should follow that practice. If those surgeons believe that women are better anesthetists than men, why, then, do they not employ women physicians? I truly believe that the reason is a financial one.

I have no complaint to make against women physicians as anesthetists, but I do not think it is just either to the profession or to the public to employ nurses for the administration of anesthetics. The public is willing to pay for this work if the profession shows it the importance of the work. How often we hear patients say that they are not afraid of the operation, but fear the anesthetic. I know of an instance when a physician brought a patient to a hospital for a minor operation upon the hand and requested a nurse to administer the anesthetic, and she said, "Doctor, I would rather do the operation and have you give the anesthetic." This nurse evidently appreciated better than the physician the relative importance of the operation and the anesthesia.

In a number of our large cities there are physicians who have given especial time and thought to the work of inducing anesthesia. Is it not the duty of the profession to support them in this special line of work, and not to belittle it by allowing this duty to be taken over by nurses?

I realize that physicians in the country may occasionally have difficulty in obtaining the services of another physician for anesthetic work in emergency cases, and at such a time the aid of a good nurse certainly is a great help. However, I cannot countenance the idea that a nurse should do this work for the reason that a brother physician may not happen to be in full harmony with the operator. We need to work together in these lines, and it might be the means of bringing about greater harmony among neighboring physicians.

There is no better reason why a physician should employ a nurse to give his anesthetics than to take care of his obstetrical work. A well-trained nurse is a big help in her own appointed sphere; but, pray, let us not give her the work to do that properly belongs to the medical man himself.

Ralph P. Peairs.

Milwaukee, Wis.

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[We are glad that Dr. Peairs has made this comment, because it affords an opportunity to clear up our own position, which seems to be misunderstood by some. We do not advocate the discrimination by the surgeon against his fellow practitioners in favor of the nurse—to save money, or for any other reason. It is because we believe the surgeon should have the best-possible anesthetist assistant that we have advocated the preparing of nurses for doing this work *where physicians especially trained to do it are not available.* Particularly is this necessary in the smaller cities and towns. In large cities, there are good anesthetists who understand this work thoroughly, and in the larger hospitals, internes who have received careful training may be depended upon.

Anesthesia is too vital a part of the work of the surgeon to be entrusted to any man—no matter if he is a good doctor and a good fellow—whose principal qualification is that he happens to be "handy". This assistant should not be selected by chance, for convenience or from personal friendship. He (or she) should be accustomed to work with the operator regularly, so that the latter may have full confidence in his (or her) work, and thus be able to devote all his thought and attention to the operation in hand. In other words, the surgeon and anesthetist should be working partners—each a "specialist" in his own field.

In many localities such an anesthetic-assistant is best secured by especially training some one. The young doctor too often considers this work infra dig. He considers it a makeshift; and he is also mainly interested in building up his own practice, and the emergencies thus created must receive his first thought and care. But a nurse can be trained who will be the surgeon's *alter ego*—who will have no other thoughts, no other care no other interest than to do *his* work to the very best of her ability. No question of money saving should enter into the arrangement at all. The only, the sole, consideration should be the welfare of the patient.

Under no circumstances should the surgeon employ an untrained nurse for this work, if that can be avoided. Where a trained physician is available—especially one who has given special study to anesthesia—he is the person who should be selected to do the work. —Ed.]

FUNCTIONS OF THE CORPUS LUTEUM

Dr. Wilmer Krusen (*American Journal of Obstetrics*, October, 1912) describes the functions of the corpus luteum as follows: (1) They bring about obliteration of the ruptured graafian follicle, without the formation of cicatricial tissue. (2) According to Fraenkel, they prepare the mucosa of the uterus for the reception of the ovum. (3) They dominate the occurrence of menstruation. (4) The conclusive and convincing studies of Loeb prove that they are indispensable for the formation of the maternal placenta. (5) "The corpus luteum changes the periodicity of the sexual cycle; it prolongs the sexual period, the interval between two successive ovulations, by preventing the rupture of the follicle." (Loeb.) (5) Rebaudi believes he has demonstrated a functional connection between the pancreas and the ovaries, and that, when the functioning of the corpus luteum was deficient, the islands of Langerhans in the pancreas became hypertrophied and evidently were doing extra work. Similar changes were observed after the removal of both ovaries or after the destruction of the corpora lutea alone. (7) The corpus luteum seems to resemble the adrenals in its effects upon blood pressure and the vasomotor system.

MEDICAL SUCCESS AND DRUG KNOWLEDGE

I am always on the wrong side—that is, on the unfashionable side of every tendency in medicine. That is because I am of a judicial temperament instead of a partisan, and I always see the danger of going too far with a good thing. So, years ago, when nearly everybody was preaching climate for consumption, I urged the necessity of skilled treatment and careful management. Later, when home treatment became the fad, I spoke up in favor of the climates where the maximum of open-air life and sunshine could be secured, with the minimum of discomfort and neglect.

Nobody could be more appreciative of the magnificent work done by the modern surgeon, but I have to object to the preposterous claims of "no treatment but the knife" for maladies that are readily cured by nonsurgical methods. Moreover, when one hears the assertion, "There are no family doctors now—they only seek to find out whether a family has money and then to find some excuse to send to a city surgeon and pocket half the fee," it is surely time to utter a very emphatic protest.

Again, as to the modern scientific methods embraced under the head of laboratory work. Nobody has insisted more than I upon the necessity of the physician availing himself to the fullest extent of its priceless advantages; yet I have equally insisted upon the clinical, or bedside, studies of the doctor as well.

So it has seemed that I am always combating "progress," when, as a matter of fact, I have been seeking to be just. Yet, here is precisely the case I have foreseen: A prominent member of the United States Army Medical Corps, a man of brilliant attainments, has been court-martialed and sentenced to a reprimand because in his apparent zeal for scientific researches he neglected his patients! Exactly! That is what he is paid to do. But as long as glory merits the scientific investigator while obloquy and neglect are the mede for the faithful clinician, can we expect the ambitious youth to choose the latter?

The department of therapeutics in medical instruction has sunk so low in relative importance that a short time ago I found that three medical colleges in this country did not list a teacher of this branch on their faculties. Non-drug therapeutics was embraced, and pharmacology, but the principles of therapeutics, the application of drugs in the treatment of disease, were ignored. Not a solitary postgraduate school has a chair of this sort.

However, two Chicago colleges have taken up this matter and arranged to give their pupils a thorough course in modern scientific, up-to-date drug therapeutics. In these institutions the active principles, serums, vaccines, bacterins, opsonins, and other resources of modern science have been fully treated, as well as the numerous forms of non-drug remedies. The result is striking: while nearly everybody agrees that the medical profession is overcrowded, there are more openings for graduates of these two schools than there are men to fill them.

These graduates make good, too, and from all sides come reports showing the good work they are doing. "Three of your men are in my hospital; and, I tell you, they are crackerjacks." "Young Doctor —— is a great physician; can you send me another like her?" "I have had one of your graduates here for a year, and I want another. Salary, $1500 and expenses." "I want one of your men to go to Alaska; $300 a month." "I want you to send me a junior partner, so I can retire in a year." "Your graduates put it all over us when in the sick-room." Lives are saved by prompt application of drugs when the consultants declare the cases hopeless.

These men are taught modern drug therapeutics—that's all. Any college could do the same thing if its faculty realized what it is worth.

W. F. Waugh.

Chicago, Ill.

A DIETARY TABLE FOR CONSTIPATION

In *The Medical Times* for July last, Holland discusses the dietetic and mechanical treatment of constipation, and he gives the following sample schedule for a twenty-four-hour period, this to be modified according to special requirements, taste or finances of the individual, but to be followed persistently as to time, regularity, and the principle of bulk in the diet. This is his scheme:

Upon arising, a glass or two of cold water, followed by five minutes' exercise; this to be followed either by a cold bath or the slapping of the abdomen with a towel wet with cold water. Dress.

Breakfast: A baked apple with cream; a large saucer of oatmeal with cream; a little butter and sugar; a soft-boiled, poached or scrambled egg, with or without bacon; several pieces of bran bread and butter; a cup of coffee with cream and a little sugar; marmalade or honey. For those who smoke, a mild cigar. Fifteen minutes after breakfast visit the toilet, whether prompted or not. One hour after breakfast, drink a glass of cold water.

Lunch (for a business man): Cold chicken or ham; any kind of salad (excepting potato); rye or brown bread and butter; a baked apple with cream; a glass of buttermilk or sweet cider. A cheaper menu: A rye-bread and ham sandwich; a baked or raw apple; a glass of buttermilk. For those at home: Cold meats, warmed-over vegetables, jam or preserves, with bran, white-wheat, graham or rye bread and butter, a glass of buttermilk or sweet cider. One hour after lunch drink a glass of cold water. At three or four o'clock take five minutes' exercise.

Dinner: Clear soup or thick vegetable soup; roast, steak or chops; two or three kinds of vegetables; salad with plenty of oil in the dressing; fruit pudding or oranges cut up; plain cookies; bread and butter as for lunch. One hour after dinner take a glass of cold water. At bedtime take three minutes' exercise. If the visit to the toilet in the morning was not satisfactory, go there again at this time.

GIVE A CORRECT, TRUTHFUL DIAGNOSIS

"He is the flower (such as it is) of our civilization; and when that stage of man is done with, and only to be marveled at in history, he shall be thought to have shared as little as any in the defects of the period, and most notably exhibited the virtues of the race."—Robert Louis Stevenson.

By many the doctor is regarded as a species of the quack order, one who rejoices in the distressing circumstances of a patient who finds it necessary to seek his counsel and aid in serious sickness. It is a frequent comment on the part of the laymen that we promiscuously dispense "flour and soda."

Oftimes, when a doctor has worked honestly and faithfully (and sometimes without hope of pecuniary reward) tiding him over a grave crisis which obviously would have resulted in putting out his little spark of life had it not been for the intelligent and skilful attention of the physician, the patient will give the credit to some kind-hearted, ignorant old woman who perhaps prescribes a certain "yarb," which apparently causes a very speedy recovery, after the attending physician has intelligently treated the case and has removed the cause.

The doctor is usually too busy and has too much professional pride to enter into controversy, or attempt to overcome such erroneous impressions.

Of course, there are numerous unscrupulous quacks who, through gross misrepresentation of their alleged medical knowledge and therapeutic skill, rob thousands of poor, unfortunate, ignorant, misled sufferers of all their hard-earned money, leaving them at the mercy of charity; and, alas, there are many of high social standing, who pose as being intellectual and progressive in other matters, that permit themselves to be gulled into the patronizing of impostors possessing not a semblance of medical knowledge but making all sorts of absurd claims.

The physician, himself, cannot be held entirely blameless for this state of affairs. As an illustration, consider the attitude of many physicians when consulted by a patient in the initial stages of pulmonary tuberculosis. Do they not frequently attempt to allay his anxiety by referring to the trouble as "bronchial disease" or a "slight cold on the lungs." intimating that it is in no respect of a serious nature?

I believe the physician makes this diagnosis for one of two reasons: he is either superficial in his examination and grossly careless in his methods of arriving at a diagnosis, or he purposely misleads his patient in order to afford him temporary satisfaction.

Is it to be wondered at, then, that this patient will lose faith in his regular physician when his cough grows worse and he gradually becomes weaker, day by day, with no prospects of relief, and in his dilemma turns to the patent-medicine man or some far-famed specialist who, in emblazoned and flamboyant type, announces to the world his discovery of an infallible cure for consumption?

Is it not pitiable to see these poor, emaciated, misguided consumptives, as they pass from one socalled specialist to another, patronizing the dispensing pharmacist, patent-medicine crook, mental-healer, etc., while they are being systematically robbed, not only of their money, but of that which is of infinitely more importance to them, i. e., an opportunity for recovery? This would really be amusing if it were not for the tragedy involved, the enormous death-rate due to a preventible and curable disease.

What can the doctor do to overcome this state of affairs? Simply this: Have a frank talk with those patients who present positive symptoms or symptoms strongly suggesting tuberculosis. Let him impress upon them in unmistakable and emphatic terms that they are facing a grave danger. They should not be allowed to leave the doctor's office thinking that they are merely suffering from a cold or slight catarrhal affection of the respiratory passages.

Once thoroughly convinced that they have consumption, take time to explain to them the nature of the disease and point out the false ideas that generally prevail regarding same. They should be earnestly advised that in the hands of honest and capable physicians consumption is a curable disease in a large majority of cases. The doctor who does this will save numerous lives, retain the confidence of his patients, add to his prestige, and prove himself of inestimable value to his community.

H. W. Smeltzer.

Greendale, Va.

A BAD CASE OF NOSTALGIA

'Mid pleasures and palaces, never content,
O give me my flapjacks of Portland cement!
With egg for my breakfast, an egg that was laid
The year that the Hay-Pauncefote treaty was made.
Chorus:
Home, home, sweet, sweet home!
Be it ever so expensive there's no place like home.

How dear was my seven-room Englewood flat,
(Though others were ten dollars dearer than that),
Where odors of springtime, tho' feeble and scant,
Were strengthened by those from the rendering plant!
(Chorus.)

How jocund I'd rise at day's earliest peep,
When Rafferty's rooster was murdering sleep,
And haste to my kitchen, delectable spot,
To give to my flies their matutinal swat!
(Chorus.)

How lordly I'd order my grub from the store,
While grocers and butchers kowtowed at my door!
Blest days ere the middleman captured my goat
And forced me to feed at a table-dee-hote!
(Chorus.)

An exile from home, pleasure dazzles in vain,
O give me my Battle Creek sawdust again!
O take all your parley-voo dishes away
And bring me familiar old shredded baked hay!
(Chorus.)

Frank L. Rose.

Jackson, Mich.

ETHYL CHLORIDE. CARBUNCLES

The object of this article is to get some of the readers to tell their experience with ethyl chloride, the various uses to which they put it. whose make they use or prefer, and so on. In order to start the "ball to rolling," I will be the first and tell some of my own experience with it.

I first tried ethyl chloride about fifteen years ago. A drug salesman came to see me and I asked him what he had that he could recommend as a local anesthetic—I expecting to procure some preparation of cocaine. The agent said he had something that was ahead of cocaine, showing me a glass tube holding, I suppose, one hundred Grams. I had him send me a tube, and had I known more about the different containers, perhaps I could have managed better—at least got more service out of the investment, which was $1.50, I think.

I lanced one or two boils of small size with fairly "good feeling" to my patient. But my stuff went away too fast, the vent was too large to get a spray, it ran from the tube in a stream as large as a broom-straw, consequently I failed to get best results. Half of the first tube was lost on account of the valve leaking.

I buy from different makers from time to time, each manufacturer claiming to have the best product of ethyl chloride and best container. I tried another American make, as well as an imported article, the latter named "ethesea," put up in Switzerland. From one 50-Gram tube of the latter I got results all right, but after the tube was exhausted, I found my second one was empty. The rubber plug fitting over the vent had been dissolved and my ethyl chloride was gone.

Seeing an advertisement of a 100-Gram tube for one dollar, I sent and got it; by express it cost me $1.50. This was "antidolorine," made by a firm of that name in some town in New Jersey. This happened to be for general anesthesia, as stated on the container, and not wishing to use it for that, it has been useless to me, though it is a good article if the vent could be made small enough to spray instead of stream.

Sending to the same house again, this time for a 50-Gram tube, I was sent a 60-Gram container made by the Gebauer Chemical Company, Cleveland, Ohio. This cost me $1.25, which was 25 cents more than I had to pay to the manufacturers. I have been using Gebauer's make for two or three years, and have found it as nearly perfect as I expect to get.

This firm last named comes as near treating a man "white" as I can ask, and they guarantee against loss by leakage, if a few simple rules are followed. The ethyl chloride can be so regulated that you can stream it or spray it with a hissing sound that can be heard across a room. This stream can be perfectly regulated, and in using, when the spot upon which it is turned flashes white, you can get through the skin with a knife without causing pain, practically.

The technic is simple, but simple as it is, a man will find that familiarity by handling and learning how to regulate the screw, which way to turn instantly, is necessary, in order not to bungle. But this holds good as a rule in all things.

Now for the different operations for which I use it in giving a hypodermic to children, nervous women, and some cranky men. Occasionally I find someone who complains of the cold; they say it is burning.

I use it, for instance, for lancing all kinds of abscesses accessible with the spray. Or, when called on to reduce a strangulated hernia and slight taxis fails to push the knuckle of gut back, spraying with ethyl chloride will cause the gut to slip through the ring with but little manipulation; and frequently it pops back without taxis.

For destroying venereal warts it is invaluable. I have had some of the finest results with it for this purpose, generally making four operations where there is a good crop. In two or three cases I have used it to destroy the phagedenic condition in chancroids. Moles on the face will shrivel up and disappear if frozen two or three times.

If I wished to use the injection of carbolic acid in carbuncles, I certainly should utilize the spray to obtund sensibility first. But in treating those painful things I do not now inject, although I have done so several times. I find a sliver of wood covered with crystal carbolic acid all that is needed, and I have used it this way for twenty-five years. No anesthetic is needed, except the phenol itself. This method I explained in *The Medical World* for September, 1911, telling how I happened to adopt it, the experience being personal. I had been in hades for a week, without sleep, so I had my better-half mop out thoroughly the small slough, that had formed, with such a phenol-covered match. I got the first rest that I had managed to get for a week. (This "buncle" furnished me a memento in the form of a large scar on the back of my neck, cutting the muscle half in two.) The next morning it was cleaned out again with the carbolic match, and this was repeated several times each day until the entire induration was broken down and mopped out. My appetite came back in a day or two, and "Richard was himself again."

My youngest brother, Dr. Albert Brasfield, of Brazil, Tennessee, to whom I described the treatment twenty years ago, has treated more cases with this method perhaps than any man in this state. He first smears vaseline around on the outside skin, so that any excess or overflow will not blister, and with a probe covered with cotton and crystal phenol burns to the bottom and all sides of the induration in a short time. To any brother physician who has never tried this plan in a carbuncle, unless he positively knows that he has something better, I wish to say, Try it, and hear the fellows thank you—

but, while they still feel grateful collect your bills, unless you know your patients to be O. K., worth one hundred cents the dollar.

Some time in 1912 I had an article in Clinical Medicine on the use of sunshine for cauterizing suspicious growths—moles, epithelioma—where no glandular or systemic involvement existed.

Many letters reached me, asking for further light. All of these I answered except two, one from Dr. Campbell, of Watouga, Oklahoma, and one from a brother in Indiana, whose name I have forgotten. To these two I wish to apologize by telling them that about that time I was laid up for repairs from a kick by my horse, so the enclosed two cents was not deliberately stolen!

As to whoever tried the sunshine I don't know, except Dr. A. R. Hollman, who wrote me first for all I could give him—and elucidating the method. In the course of a month or two I received a card from Doctor Hollman, away down in the Republic of Mexico, thanking me and asking what he could do to show his appreciation. The method had saved a life, and a leg, I believe, the patient having gangrene, and the case being inoperable.

I kept thinking I would write Dr. Hollman, but have never done so. But I read with interest his last article in your Clinical Medicine. By the way, letters like his, Dr. Moody's, and Dr. Moss's are every whit as enjoyable as when the subjects are pure medical "pabulum." Tell us more about that land of mysteries, Dr. Hollman—peculiarities of the greasers, and the dons. Do they have any dons there now?

Well, Dr. Burdick, perhaps I have said enough to worry you into sending this to the waste-basket. As I said to you, I like to feel, when writing to Clinical Medicine, that, by personating you, Waugh or Abbott, there is a living—oh, thunder, somebody that I am talking to, and not a bodiless, soulless corporation.

There are so many good men who write for Clinical Medicine that I feel like taking a back seat. The pictures occasionally published are such fine-looking specimens of manhood. They look so prosperous, and all that. Brother Waugh — who, by his writings, then was with *The Medical World*—first gave me a zest really to *study* medicine, though at that time (1887, I think) I had been in practice eight or ten years. By chance I got hold of a file of *The World* and soon after subscribed for it, taking it ever since, or reading it ever since. For one or two years I read it by exchanging with a brother physician; and, by the way, had I got a hold of the business talks which Taylor gives us, I might now be in much better shape than I am. I learned to look for anything that Dr. Waugh might have to say. I believe that I can pick up a journal, read a dozen lines, and if Waugh wrote it I will be be able to tell—something "Waughish" in his style.

I began reading The Clinic soon after it was started, and stayed with it for ten or more years, as a paid subscriber, rest of time read by exchange.

I will close now, hoping to hear from all who have had experience with ethyl chloride, as said before.

S. W. Brasfield.

Humboldt, Tenn.

SEE AMERICA FIRST

Seeing your editorial on page 1075, November (1912) Clinical Medicine, woke a responsive chord in my breast. "See America first" is my slogan, and I have seen a great deal of it west of the Great Lakes.

In 1900, I went to Alaska, spending eighteen months roaming over that vast territory, being known there as a "sourdough." Of course I joined the "Arctic Brotherhood."

Returning to the States, I visited Tacoma, Seattle, Portland, Spokane, and other cities, and finally secured a position with the Northern Pacific Railroad, at Livingston, in the train-dispatcher's office, as I am an expert telegraph operator. From there I had numerous chances to see the Yellowstone National Park and the surrounding country. Then I secured a position as chief operator at the Butte, Montana, Western Union office. Finally I returned to Chicago via Ogden and Omaha.

Four years ago I spent six weeks hunting in the Du Chesne River Valley, Utah, crossing the mountains on a pair of skis, with which I learned to be expert in the Klondike.

This fall I took another vacation, hunting in the Rocky Mountains of northeastern New Mexico, where I found grand old nature in all her beautiful handiwork. The memory of this last trip haunts me, and I should like to tell the rest of the "family" about the old Santa Fe trail, the old log house that Kit Carson lived in, the beautiful orchard of Mr. Chase, Kit Carson's and General Lew Wallace's friend; the old apple-tree standing in front of Mr. Chase's residence, that saw the commencement of the last chapter of Ben Hur; the beautiful roaring, trout-laden

Cimarron River; and the black-tailed deer roaming the primeval forests.

But space forbids. Suffice it to say—"See America First." Nothing more beautiful exists in the world, and there are many, many beautiful nooks and corners that human foot has not yet trodden nor eye yet beheld to stamp themselves upon the memory.

A. E. Collyer.

Elgin, Nebr.

[Can we not prevail upon Dr. Collyer to "go ahead" with his story? This is something we all are interested in. *You* ask him.—Ed.]

THE TREATMENT OF INEBRIETY. A DRUNKARD'S FARM

It is no trouble at all to cure inebriety. Clean out, clean up, keep clean, and give bitter tonics for a week, and the patient is well. In the *cleaning-out* process, do not "send a boy to mill," but make a man's job of it. Calomel, podophyllin and bilein, in combination, one tablet every half hour till six are taken, followed by a saline laxative, does the business. This I repeat daily for three days. As soon as the bowels act give strychnine nitrate, gr. 1-64, and atropine sulphate, gr. 1-100, every three hours for three or four days.

From the first, give a bitter tonic. Compound tincture of cinchona, compound tincture of gentian, and fluid extract of cascara aromatica, equal parts, is as good as any.

This treatment will make a man absolutely free from the uncontrollable thirst. But the first time he has a business reverse, or a scrap with his wife, or a touch of grip or biliousness, he will go to the old sovereign remedy for every ill, and the first thing you know he is like "the dog that returns to his vomit or the sow to her wallow in the mire."

The above is like ancient history. Here is something new—*an inebriate farm.*

The city of Jacksonville, Florida, has purchased a section (640 acres) of land five miles out of the city. On one part of this city-farm will be located the inebriate farm. There were four thousand arrests for drunkenness in this city last year; but these arrests probably represent not more than one thousand individual inebriates. The plan is this:

When a drunkard is arrested, the municipal judge is to sentence him to this farm for a period of ninety days. When he gets there, he will be given the option either of going to the inebriate farm and taking the treatment, or else to go with the chain-gang and wear stripes. If a man takes the medicine and performs all the duties required for thirty days and the doctor and the superintendent are satisfied that he is cured, he will be paroled during good behavior. If he becomes intoxicated, he will be sent back for the remainder of the term.

The plan is, to give patients plenty of work to do—not slavish, exhausting labor, but enough to keep them busy. Employment at good, honest work is of as much importance as medicine.

Take an ordinary police-court "bum" who lives on free lunches and never takes a bath, and give him good, honest, sweat-producing work with ax or hoe, make him take a shower-bath every day, and feed him abundantly for thirty days with corn-bread and buttermilk, cow-peas and cabbage, and he will be a new creature. At the same time have safe and sane teachers visit these men and point out a better life. This will make good citizens of ninety percent of them. Such a farm will be self-supporting after the first year.

There should be a thousand such farms established. If Clinic readers can tell me how to do it better, I shall feel obliged. This is all in the future. The "powers that be" have tentatively promised to do their part by the first of the year.

J. N. Taylor.

Jacksonville, Fla.

THE VARIABILITY OF TINCTURE OF DIGITALIS

Dr. Alexander Goodall calls attention to the great variability in the potency of different samples of tincture of digitalis and condemns the practice of prescribing the tincture, without precautions as to standardization, as unsafe. The risk incurred in prescribing such uncertain preparations has become sufficiently evident to have caused a demand for standardized products, and Doctor Goodall has investigated the potency of such preparations for a number of years.

The report of his findings, which he communicated to *The British Medical Journal* for April 20, shows that tincture of digitalis probably retains its full activity for one year, but that after that period deterioration of its potency is likely to take place to an important extent.

Nearly 50 percent of samples of digitalis tincture made by manufacturing chemists of repute showed, in the experience of the author, a departure from the average standard of potency. The limits of this variation were from 275 percent over strength to 40 percent under strength; in other words, the effect of a dose of 10 minims might be that of 37 1-2 minims or that of 6 minims.

It is readily seen how extremely important it is, especially in view of the fact that some samples were found to be over strength, to be quite sure of the preparation of digitalis that is employed.

There is very little doubt but that almost as much harm has been done by digitalis improperly administered as benefit was accomplished by suitable doses given in suitable strength. Pharmacologists the world over are working hard to prepare the best possible preparations, which shall embody the full therapeutic virtues of this truly wonderful drug.

CHICAGO MEDICAL STANDARDS AS SEEN BY GERMAN DOCTORS

Among the newspaper articles and reviews published by the Chicago daily newspapers during the visit of the German physicians to this city was one entitled "Doctor His Sees Lack of Standardization in Medical Colleges of this Country."

It is to be hoped that this article did not correctly represent the views of Doctor His and his worthy colleagues, for it embodied an exceedingly ill-judged and precipitate opinion of the state of medical education in the United States, and in Chicago especially. Such an opinion, if our German friends really held and expressed it, must have been based upon the content of the Rockefeller Institute Report, the distorted data and biased conclusions of which have already received their full share of criticism from those who are in a position to know the real facts.

Clothes do not make the man. On the contrary, the man gives character and personality to the clothes. By the same token, the label or name attached to a medical college does not necessarily indicate its real status as an educational institution; but the student-body and the work done determine its place and value. Judging from the newspaper article quoted (which we again venture to hope is as incorrect as most newspaper interviews are), Dr. His and his colleagues were obsessed with the idea that, having visited Rush Medical College, they had exhausted their inspection of medical education in Chicago, and, after making a perfunctory call upon one or two of our hospitals and a few of our most distinguished practitioners, it was then in order to consult their watches and see whether time permitted a trip to the stockyards.

I take this opportunity of informing our German colleagues, if it be not too late, that Chicago is proud in the possession of several excellent and reputable medical colleges which furnish a living demonstration of the truth that institutions of scientific learning do not necessarily require acres of land or innumerable stone edifices in order to give to the world men of ability and worth. It is both interesting and gratifying to know that the medical Baedeckers list our own Dr. J. B. Murphy, and the school in which he teaches, among the worth-while sights of Chicago. But this great man himself, be it remembered, is the product of one of those lesser lights among medical educational institutions to which our *soi-disant* censors of medical education give but a minor place; and the same thing is true of many of our ablest and most distinguished physicians.

The fact is, that in the last analysis all of our medical colleges are practically alike—all of our reputable colleges, I mean, of course. This may seem like a very broad statement to make, but it is not an exaggeration. The ranking of one man higher than another does not depend upon his school, but upon his own individual capacity and resources. The sign of a college or a university can not make an efficient practitioner. Dr. His and his colleagues should understand—and the American public should understand also—that a conscientious, painstaking, cultured man can and will give a good account of himself, no matter which of these schools he may have attended, or what its status in a partial and prejudiced report, such as that given us by Mr. Flexner.

There could never be technical uniformity among our medical colleges unless the entire system of medical education were administered by the Government—a state of affairs to which the American people are not yet ready to submit. Nor, in the opinion of most of us, is such uniformity desirable. It would unquestionably lower, instead of raising, the general average of efficiency. Democracy and freedom, in science no less than in politics and economics, are the surest pledges of progress and achievement. The writer desires to assure our German visitors that under these conditions our medical colleges, irrespective of name, location, or wealth of improved real estate, are turning out an adequate body of medical men of whom both public and profession are, and may well be, justly proud.

There is no intention in this little preachment of reflecting upon any institution of medical learning that may have been referred to, directly or indirectly, or upon any of its graduates. Therefore, let no one take offense. It is but an earnest plea for broadermindedness, and a protest against the tendency, which seems to be growing among a certain class, to misrepresent and lower our own standards. I owe an apology to the readers of this journal for dwelling so long upon the topic—my excuse must be that it is a subject in which all are, or surely should be, concerned.

Raoul L. Vioran.

Chicago, Ill.

VINEGAR FOR HOT-PACK SWEATING

In the course of the last five or six years, I have fallen into the habit, as one of the best means of elimination in acute diseases, of sweating patients freely when seen within twenty-four or forty-eight hours of the onset of seizure, doing this before cleaning out the alimentary canal, and employing what may be styled acid-steam sweating, by the following method. Procure six or eight ordinary bricks and, after heating thoroughly in an oven or a stove, place them in a large pan containing one quart of boiling vinegar. Then remove from the stove, wrap the wet bricks in folds of any woolen fabric previously saturated with the remaining hot vinegar without wringing the cloths. In placing these bricks about the patient, be careful, of course, not to allow them to come in contact with the patient's skin. They are easily arranged, but the nurse should slip her hands from time to time under the thick blanket coverings to see that everything is held in place, so as to prevent accidental scalding.

After the patient is well wrapped, raise his head and administer half a pint (at least) of hot drink—lemonade or water with a little wine or a small teaspoonful of tincture of capsicum. In the course of half an hour most profuse sweating takes place—streams of it—and this should be allowed to continue for not less than two hours. It is astonishing how rapidly the pulse and temperature go down under this simple procedure. Ordinary sweating by hot-packs will not give the satisfactory results arising from the use of vinegar in the manner here described. I am inclined to think there must be some peculiar property in the acetic acid which so freely opens the skin-pores.

In all acute ailments, in the early stages—including typhoid fever, pneumonia, scarlet fever, measles, mumps; also in convulsive seizures, such as eclampsia and hysteria—the relaxing power of this method, along with the elimination, can always be relied on. A few cases from experience may illustrate this truth.

The first case is that of a man, aged 24, in the first stage of typhoid fever, as diagnosed. He lived in a settlement where several cases of the fever had broken out, with one death, during my absence from home. The time was in late autumn. The man had been ill two days with chills, headache, backache, high fever, restlessness, etc., and the attack threatened to be a pretty severe one.

I at once instituted acetic-vapor sweating as described, and when I left his pulse and temperature were declining and headache subsiding. The following day found considerable improvement, he having had a fair night's sleep; but, as he was a pretty robust subject, I repeated the sweating at my visit the following day. Two days later he was on the road to convalescence. Pulse and temperature were about normal. Discharged him, advising light diet for a few days and confinement to his room.

Number two was an infant of ten months, sick two days. Symptoms: Congestion and râles throughout both lungs; high fever; tight cough; great difficulty in breathing; apparently in much pain, and very restless. I sweated the child (using small pieces of brick) for two hours. Next day it was able to take a little nourishment. No further treatment was given, beyond a few drops, four or five times a day, of an expectorant elixir. Had no occasion to make another visit.

Two children, 4 and 5 1-2 years, respectively strayed into some fields near their home, being absent only a short time. On their return, they suddenly became unconscious, could not be aroused, and shortly after went into convulsions. On my arrival, I hastened to carry out the sweating process. While the bricks were being prepared I gave them each a pretty full dose of atropine, hypodermically, in order to control the convulsions sufficiently to introduce into their mouths good doses of calomel, dry, on the tongue; this being accomplished with difficulty in the midst of tonic and clonic spasms. After being under profuse sweating for about one hour, they both suddenly opened their eyes and gazed around in apparent wonderment, at first speechless, but a few moments later uttered a few words. The convulsions now were rapidly subsiding, but I kept up the "pack" another hour, and before I left both were able to talk rationally.

A word as to the trouble. Both children, we surmised, must have been eating some poisonous herb and, in fact, a few days later the father informed me he had discovered some wild parsnip, said to be poisonous, growing nearby.

Before resorting to the atropine hypodermics, it might have been thought desirable to produce emesis with apomorphine; but, on account of the most violent convulsions, tonic and clonic, such as I never before witnessed, and spasms of the throat, the emetic action of the drug might have choked or strangled the little patients.

There is, of course, no intention of offering this method of treatment as a means of aborting acute inflammatory and infectious diseases; but only of modifying and shortening their course. And for this purpose it has proven itself invaluable.

A. H. Chandler.

Cocagne, N. B., Canada.

DIAGNOSIS OF DUODENAL ULCER

When a patient complains of persistent distress from one to two hours after eating, with recurring attacks relieved by food, and vomiting and hyperacidity absent, a diagnosis of chronic duodenal ulcer can be made with considerable confidence.

The matter of recurring attacks is important. In almost every case there will occur complete relief of symptoms, but only for a time, varying from a month to several years.

This periodicity explains many medical cures, and it led one surgeon to say that he never operated for ulcer until it had been cured nine times by medical means.—E. R. McGuire, *Buffalo Med. Jour.*, 1912, June.

OCCIPUT-POSTERIOR PRESENTATION

I am convinced that the occurrence of this malposition is one of the most common causes of maternal injury and fetal death. I am also sure that a large percentage of these cases are not recognized as such until the face appears under the pubic arch. Further, a diagnosis is often impossible if we use only the classical method of palpating the sutures and fontanelles. When the scalp is completely edematous and the cranial bones are pressed together and overlapping, only the most consummate expert can make out the landmarks.

In cases of this kind, when the occiput has not entered the hollow of the sacrum, it may be necessary to put the entire hand into the womb and locate the chin or occiput before applying forceps.

For myself, I never allow these presentations to remain so, as I find that correction is always possible. By grasping a shoulder or even a hip, the fetus can be rotated on its long axis so that the anteroposterior cranial diameter is shifted through 180 degrees, and a R. O. P. presentation is changed to a L. O. A. This accomplished, the case may be left to the natural forces, or, as I prefer, delivered by the forceps, where there is no contraindication and where the corrected presentation engages readily in the pelvis. In this way we can give a uterine douche at once (which I always prefer to do after the entrance of the hand, no matter how aseptic) into the uterus. Certainly there is nothing original in this maneuver, as it has often been suggested, but I have seldom seen others attempt it.

The advice given in some of the textbooks, to wait and hope for a natural rotation, appears to me pernicious. It commonly exhausts the patient uselessly. If, however, the woman has sufficient strength to force the occiput into the hollow of the sacrum, it is impossible to reach a shoulder. In this event, it is usually possible to rotate the occiput into the anterior position with the forceps without using undue force, in spite of what textbooks say. I refer, however, only to those cases in which the child has been driven down by the natural uterine contractions. When the head has been dragged into the pelvis in a posterior position, by the use of all force at the command of the operator—perhaps 250 pounds—then further attempts at instrumental rotation might not be safe to the maternal structures. These are the cases of perinea torn through the sphincter, of paralyzed bladders, lacerated cervices, prolapsed uteri, infective peritonitis, and fetal heads mangled beyond recognition.

These accidents are the more deplorable because they are absolutely preventable. The position should have been corrected. It is no excuse to deprecate a possible symphysiotomy or cesarean section as an alternative, since with the average pelvis these can be ruled out entirely.

Occiput-posterior positions almost always require artificial aid. I have seen delivery, spontaneously, in rare instances, and have also seen spontaneous rotation. These exceptions have not encouraged me to hope for them, as a general rule. Formerly I applied forceps in the uncorrected position, hoping for the rotation that the books said might occur. I confess also that some I failed to diagnose. I have delivered some, indeed many, with apparently little damage either to mother or child. I am also positive that I have lost some whom I could have saved by correcting the malposition.

How often do these posterior positions occur? It is impossible for me to make a reliable estimate. I have had as many as three in direct succession, and know that they keep appearing at frequent intervals, perhaps, with me, one in every six or seven deliveries. I realize that they occur often enough to be a very serious factor in dystocia and fetal mortality.

H. O. Carrington.

New York City.

PHILADELPHIA JOURNAL OF PHYSIOLOGICAL THERAPEUTICS

Last month an unfortunate error occurred in a reference to the Pennsylvania Orthopedic Institute and School of Mechano-Therapy, in the Business and News Notes Department. In that item we referred to Dr. Walter as editor of *The Philadelphia Journal of Physiological Therapeutics.* This was a blunder. The editor is our good friend Dr. Louis von Cotzhausen, southwest corner 24th and Parrish Streets, Philadelphia, Pa. This is a strictly scientific journal. Indeed, there is so much of scientific interest in every number of this publication that we have come to look upon it as a reliable source of information in the special branches of therapy with which it is concerned.

SOME FACTS ABOUT SINKINA

In an editorial in the October number of Clinical Medicine (page 987), under the heading "Another Wonderful Discovery," we referred to the remarkable claims made by the manufacturers of sinkina concerning the efficacy of that preparation in the treatment of malaria.

Being somewhat prejudiced by the literature which the manufacturers were sending out, and the unusual claims made therein, without investigation we treated their claims for the remedy in a somewhat skeptical and sarcastic manner.

The Metropolitan Pharmacal Company, located at 128 Maiden Lane, New York, has taken exception to our editorial, and has furnished us with some interesting facts, which we are glad to present to our readers for what they are worth.

First.—Instead of being a play upon the word "cinchona," as one might naturally assume, the word sinkina is coined from the word "sin," meaning *without*, and "kina," meaning *quinine*, thus presumably conveying the idea that sinkina is without quinine.

Second.—The preparation, we are informed, was actually brought to this country by a gentleman "who for more than twelve years was the honored foreign representative of one of the oldest, largest and most reputable manufacturing chemists in the world. While in Asia he ran across a secret native remedy for malaria, the formula of which he purchased."

Third.—Sinkina, we are assured, is the product of "Cuminum sinensis," a hitherto unknown plant found growing in Yunnan, China, and contains no drug hitherto known to materia medica or therapeutics. The therapeutic properties of the plant are incorporated in an agreeable elixir.

Fourth.—While the active principle of "Cuminum sinensis" has not as yet been fully determined, it "would appear to be an aromatic aldehydic or phenolic substance." Eminent scientists, however, we are told, are engaged in making a searching analytical and physiological investigation of the drug, and their report will doubtless be available soon.

Fifth.—The Metropolitan Pharmacal Company states that specimens of the seeds of the plant "Cuminum sinensis" have been submitted to the Bureau of Plant Industry, Department of Agriculture, Washington, D. C., who have promised to report upon it as soon as they can produce a plant in foliage and flower.

Sixth.—The manufacturers also state that "sinkina possesses the remarkable property of quickly and completely eliminating every evidence of the haematozoa of paludism from the blood, doing so without any of the objectionable idiosyncrasies of quinine, while building up damaged corpuscles."

Seventh.—It is also stated that the therapeutic properties of the remedy have been thoroughly demonstrated in the Orient, the Roman Campagna, and in the United States. The Metropolitan Pharmacal Co. has submitted to us a number of reports of clinical tests made with the remedy in the governmental hospitals of Italy, as well as from a number of American physicians attesting its therapeutic value in the treatment of malaria.

Eighth.—We are also informed that the preparation has been submitted to the members of the special commission appointed by the Southern Medical Association for the study and prevention of malaria, and to the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in "New and Nonofficial Remedies."

While we believe that the character of our editorial was justified by the most unusual statements made regarding this remedy, still we are very glad indeed to put the facts, as presented to us by the Metropolitan Pharmacal Company, before the readers of CLINICAL MEDICINE.

If a new and effective remedy for malaria has really been found, we shall all be glad to know it. It is, we believe, unfortunate, however, that an undignified and misleading name was selected for the product and that the literature first presented was of such an unscientific character. We shall be glad to learn more about this product as the investigations concerning it are continued, and it will give us much pleasure to present any facts concerning it (and we trust these facts may all be favorable) to the readers of this journal.

THE CODEINE-HABIT AND EROTICS

In the last October issue of CLINICAL MEDICINE there appeared an interesting article on codeine. The doctor, a French physician, claims for it that it is hardly known to produce a habit. One of the editors, commenting upon this, very sensibly asserts that codeine most assuredly is a habit-forming drug. However rare, I can well conceive that there may be such cases. For anything or any procedure which produces the "charm of euphoria" may be too often indulged. The act of copulation is a physiologic habit often too frequently repeated by the newly married, and often indulged even in advanced pregnancy.

To the latter habitué, the footnote on Parvin's "Obstetrics" should be read. As a punishment for such an outrageous act the man was, by the ancient Arians, compelled to kill one thousand lizards and one thousand snakes and build one thousand bridges over running water, etc. This would also seem to be a retribution on the snake which suggested the habit to Adam and Eve.

I have lately treated a case of morphine-habit combined with codeine. The patient was intelligent and the manager of a hotel in one of our northern states, but I much regret that I was requested not to enter the history of his case. This was the second time that he was under treatment in the same institution, but whether or not codeine entered into the case the first time I do not know. My experience in an institution for drug-habits is to the effect that morphine or whisky starts a habit, and then heroin, codeine, and such-like drugs quite often complicate. It is most probable that owing to the more strenuous life in the United States drugs are more resorted to than in Europe, and the "Hague Conference this year could not decide whether or not codeine is a habit-forming drug." (Charles B. Towns.) My experience in public work and in a hospital for tuberculosis has been that heroin is much more satisfactory in the cough of phthisis than codeine.

THOMAS R. EVANS.

Shelbyville, Ind.

A LESSON FROM THE ATTEMPTED ASSASSINATION OF COLONEL ROOSEVELT

I beg to call your attention to a plan designed to lessen or prevent crime and other antisocial acts, especially such as the attempted assassination of Theodore Roosevelt. I shall be very grateful for the honor of your editorial aid.

For many years I have been advocating in Congress, and in state legislatures and presenting to mayors of large cities the plan herein outlined, which, in brief, is to establish laboratories or bureaus for the scientific investigation of criminals and other dangerous abnormals. I believe that every large city, every state, and especially the federal government should have such a laboratory.

When anyone sends to the president, the governor, the mayor, or to any prominent citizen threatening letters, or repeatedly utters threatening words, or attempts to injure such officials, or is unreasonably insistent in demanding to see them personally, such individuals should be detained at least a few hours and thoroughly studied by scientific experts in criminal anthropology, psychophysics, and social pathology.

By patient study of dangerous, unbalanced, and often illusioned persons, who may be called mattoids, their eccentricities and peculiar behavior can be determined to such an extent that we may detect them in advance. At present it is almost impossible to do this, because of little or no knowledge concerning them being possessed; and this ignorance is due to want of systematic, scientific, and sociologic investigation.

Millions of dollars are annually expended by our government for the scientific investigation of the antecedents, peculiarities, and behavior of some little bacillus causing the death of plants or animals, but little or nothing is given for a similar study of the larger human "bacillus" that has caused this country to suffer losses beyond calculation.

Who can estimate the injury and cost to the United States of the assassination of Garfield and McKinley? Shall we wait till more presidents, governors, mayors or other distinguished citizens lose their lives at the hands of assassins before we begin a systematic study of dangerous individuals of this type?

ARTHUR MACDONALD.

Washington, D. C.

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[We understand that a bill covering the ground suggested by Mr. MacDonald has been introduced in the Senate by Senator Sutherland, and a similar bill in the House by Representative Graham of Illinois. These bills are pending before the Judiciary Committees of both houses. If you are interested (as you should be) make your influence felt with your legislative representatives.—ED.]

WANTED: BACK NUMBERS OF "THE MEDICAL COUNCIL"

In our library-file the January and April numbers of *The Medical Council* 1910, are missing. Should any of the readers of CLINICAL MEDICINE happen to be in possession of the numbers mentioned and are willing to part with them for the benefit of our library, they will confer a great favor by informing us per postal card, or kindly mailing them. Address: The Librarian, The American Journal of Clinical Medicine, Ravenswood Station, Chicago.

ANOTHER "LITTER"—QUADRUPLETS

The matter of quintuplets written about in the September issue of THE AMERICAN JOURNAL OF CLINICAL MEDICINE (see page 958) calls to mind the fact that here in Massachusetts we are making quite a lot of talk about quadruplets born to Mrs. Thomas H. Seely, of Dorchester, at the Dorchester Cottage Hospital, August 5, 1912. On September 14 they were all living and apparently in good health, for they were removed from the cottage hospital to St. Mary's Infant Asylum, Jerome Street, Dorchester.

The mother was left under the impression for several days that she had given birth to twins; the babies being taken to her two at a time. They were perfectly quiet at the hospital for four days after birth (having been at once placed in an incubator), but then they commenced to cry.

They are tagged and numbered, not having been named yet. Number 4 is the heaviest weighing 5 pounds, 4 ounces; number 1 is next, weighing 4 pounds, 10 ounces; number 2 weighs 4 pounds, 4 ounces; and number 3 weighs only 4 pounds, 3 ounces.

A Boston newspaper had the city birth-records examined after the babies were a few weeks old, and found a record of quadruplets born in Charlestown in 1910, but all died within a short time of birth.

LAURENCE F. KEITH.

Wareham, Mass.

BACTERINS IN PUERPERAL SEPTICEMIA

In the London *Lancet* for February 10, 1912, D. G. T. Western presents a careful and instructive study of 100 cases of puerperal septicemia in 56 of which the patients were treated by bacterins. The details of this paper should be read in the original. The patients had all been confined in their own homes, often under the most unfavorable sanitary conditions; they had been attended either by midwives or by physicians.

Of the 100 cases, 25 followed miscarriage, which in two instances was found to have been criminally induced. The onset occurred usually in two or three days, and the author found that the more fatal cases had usually set in on the second day; which suggests that the more virulent the infection, the more rapid will be the onset and the more fatal the result.

In the blood-cultures, streptococci were found most frequently. In a few cases staphylococcus aureus was found.

In 56 of the 100 patients, bacterins were employed for the purpose of active immunization. It may be said in passing that in 18 cases in which antistreptococcus serum was given, either in conjunction with or without bacterins, the serum did not appear to have any marked effect in lowering the temperature or in improving the condition. Sometimes, indeed, the action of the serum appeared to be distinctly unfavorable.

As to the bacterins, the author concluded from his results that these were most favorable in those cases in which he had employed an autogenous vaccine. Some patients who had shown no results whatever on treatment with stock bacterins responded promptly to the administration of an autogenous preparation.

Of the 56 patients treated with bacterins, 18 died; which gives a mortality of 32 percent; while, of 44 untreated patients, 24, or 56 percent, died. Unfortunately the two groups cannot be compared strictly, because the untreated cases included several which were extremely severe and in which death occurred before specific treatment could be administered, and they also included a number of very mild cases in which specific treatment did not seem called for.

If we consider 27 cases in which the blood-cultures had been positive, we find in these a mortality of 52 percent (14 deaths), in 6 of which only a single dose of bacterin had been administered within twenty-four hours of death. On the other hand, among 15 patients with positive blood findings which had not been treated with bacterins, 14, or 87.5 percent, died; and, if we confine ourselves to streptococcal cases, we find that 12 out of 13 untreated patients died—giving a mortality of 92 percent.

From these figures it appears that treatment by inoculation with bacteria in this series of cases had reduced the mortality by 30 to 40 percent.

We have reproduced the mortality figures of the author, although statistical investigations are rather difficult and involved to those who are not accustomed to them. We can conclude, however, from the results of Dr. Western's interesting article, that in acute cases of puerperal fever treated according to old methods the mortality is extremely high and that this has been reduced by from 30 to 40 percent by the administration of specific bacterins, of which autogenous preparations produced better results. These results are important, and they show again the immense possibilities of the biological treatment of infectious diseases.

THE CORSET NOT A PROPER THERAPEUTIC AGENT

Is the medical profession experiencing a change of heart? After centuries of intense opposition to corsets, are the physicians and the corsetière to clasp hands, and is the decried garment to be accepted as a prized therapeutic agent? It might seem so from views presented first by Dr. Arbuthnot Lane in the London *Lancet* for Nov. 13, 1909, and among others by Dr. A. S. Gray in Clinical Medicine for December, 1911.

Briefly their arguments are: Man was originally an animal who walked on all fours; his change to an upright carriage involved a changed relation of the abdominal viscera to the force of gravitation, and a tendency of these organs to drop out of position, with consequent derangement of function; the provisions of nature to counteract this new danger have been slowly made and are not yet complete; in the meantime there is need of artificial and external means to counteract this tendency to enteroptosis; and, it now is claimed, such means are found in the properly constructed corset.

This is an application of the doctrine of evolution quite startling in its suggestions. How many other of the ills that flesh is heir to may be due to that "fall upward" when man abandoned the use of his fore limbs for purposes of locomotion? Are the abdominal viscera the only organs that have been subjected to undue strain by the changed relation of their axes to mother earth? Ought not other parts to be carefully trussed up to avoid possible injury? Or, better, would it not be wise for the human animal to reverse as much as possible his anatomical lapse and return to quadrupedal locomotion?

Of course the new doctrine concerns especially the male sex, as the female, at least in civilized lands, seems to be fairly well supplied with the newly discovered therapeutic agent. It is a recommendation to all men to assume this garment which has been so distinctly feminine. It might be well for manufacturers of corsets, from humanitarian as well as business considerations, to send out some reprints of these valuable articles to uncivilized lands. Doubtless lady missionaries would prove valuable agents for the dissemination of the new gospel of the corset among the benighted women of these benighted lands. But just at this point Dr. Gray's reasoning is a trifle obscure. He says: "Investigation among the uncivilized races shows, under normal conditions with them, an almost complete absence of these abnormal physical conditions that cause so much distress to the civilized individual."

The evils, then, of man's adoption of the upright position are not universal, but are practically confined to civilized peoples. Are we to understand that uncivilized man has not made as much progress in bipedal locomotion as the civilized and so has not experienced its evil consequences? Or did those races now uncivilized make the transition first, so that nature has had a longer time in which to provide the needful compensatory organs and devices?

Dr. Arbuthnot Lane suggests another reason for the more favorable condition of uncivilized man, namely, civilized man's habit of sitting. Savages squat, and so during a part of the day relieve the downward drag of the abdominal viscera by the upward pressure of the legs. From this it would seem that the cause of the prevalent evil of enteroptosis is not man's upright posture, but the deadly chair, and that the simplest therapeutic agency would be a return to the squatting habit of the chairless and cheerless savage. The corset is of value only till the deplorable mistake of civilization can be remedied—until the sinful chair is routed.

But Dr. Gray disturbs us yet more in this course of reasoning, for he says: "It is stated by good authorities and very conclusively proven that more than fifty percent of the women, and a very considerable percentage of the men, are suffering from enteroptosis." He implies, what I believe is well known, that women are suffering far more than men from this abnormality. And, yet, women are those who, not by reasoning, but by an "instinct" now (according to these gentlemen) proved to be correct, have provided themselves with this therapeutic agent recommended by Doctors Lane and Gray.

It would seem, then, that the instinctively discovered remedy has heightened the disease. And Dr. Gray does assure us that "the garment . . . until in very recent years, has been a most injurious appliance, productive of vast harm to the human race." His Figure 4 shows the most certain device conceivable for the production of enteroptosis; and when it is remembered that the garment depicted has been worn by civilized women for centuries, it seems needless to look further for causes of enteroptosis in those women, or, remembering the influence of heredity, in their sons. But what of the "instinct" that has led women to retain this "most injurious appliance"?

Rejecting this monstrosity, Dr. Gray furnishes in Figure 3 an illustration of what he thinks would be a valuable therapeutic appliance to counteract the pathologic condition he describes. But it is not a corset at all. It is a simple abdominal band. The corset is an entirely different garment. It differs by extension upward over a part of the trunk not involved in the conditions he bewails, and where it can have no possible beneficial effect. It differs further by the addition of perpendicular bones or steels. The essential question is, What is the relation of these bones to enteroptosis?

Suppose we imagine a garment constructed exactly according to the requirements of the therapeutic corset as given by Dr. Lane, Dr. Gray, Mr. Heather Bigg, and others. We will assume that there is absolutely no compression of the waist or thorax (though as long as women wear laced garments around their waists it will be absolutely impossible entirely to exorcise the demon of the wasp waist). These bones are adjusted to the body in the upright posture.

What now happens the moment the body bends forward? Every bone becomes a lever. The pressure outward and downward upon the upper end becomes a pressure inward and downward toward the lower end. Whatever possible beneficial effect might be produced by the skirt of the corset as a mere band is more than counteracted by the action of these levers, and there is an inevitable return toward the condition depicted in Figure 3. Test the pressure under the lower part of the corset by the manometer or even by the hand. Watch a company of schoolgirls—if you can find one where there is no waist compression—as they bend over their desks at their tasks. How is it possible to avoid enteroptosis under such conditions?

There is another question to be asked. What is the effect of substituting artificial contrivances for natural organs and processes in the normal body? There is danger of dislocated ankles with man's present mode of locomotion. Will you discontinue the use of the ankles and substitute crutches? From a variety of causes there is danger of constipation. Will you, as a regular thing, substitute cathartics for natural movements? By Dr. Gray's confession, the vast majority of the human race get on very well with the intraabdominal supports furnished by nature. Shall they be relieved by the substitution of artificial external devices? If there be danger of their proving inadequate, is not the whole drift of medical science toward the strengthening of the natural organs rather than to favor their atrophy through disuse? Who will deny this?

The question of therapeutic measures in pathologic conditions is something quite different, but it is difficult to see how even there the corset, as distinguished from the abdominal band, can ever be of service. This machine was created by base women for base purposes. The only instinct back of its perpetuation is the instinct of fashion. Just now, when the movement toward the emancipation of women from this disastrous thralldom is acquiring such momentum, it is peculiarly unfortunate to find members of the medical profession bolstering up the dying cause of the corset with specious arguments.

W. H. WALKER.

South Haven, Mich.

FRIEDMANN'S NEW TUBERCULOSIS PREPARATION

It has been said that the illiteracy of the entire United States is about 10 percent, whereas the illiteracy of Maryland is about 11 percent (see the literature given out by the world in Baltimore). If these statistics are true, it is a foregone conclusion that the editor of the following clipping is a typical Marylander, and most likely a resident of the principal city of the state that has more illiteracy than all of the rest of the United States combined. The clipping cites Dr. Friedmann as follows:

"The serum, originally produced from turtles, is easily used. One injection usually drives all signs of tuberculosis from the system. Not only that, but it immunizes against tuberculosis as vaccination does against smallpox. Cures come within a few weeks. Of course, lung tissue that is gone cannot be replaced, but all of the germs within the body are destroyed, the wounds in the lungs heal and all fever disappears. My method is to inject the serum."

I do not believe that turtle serum has any very great selective germicidal power for the tubercle bacillus, protected as it is by its membrane of cellulose, against drying and the entrance of stains, etc. Yet I am not in a position to state whether or not turtle's blood has the necessary penetrating lethal power, and would like to hear from those who are informed, or who have carried their researches into this particular field.

L. B. EVANS.

Baltimore, Md.

[It is altogether too early to pronounce a positive opinion concerning this latest "cure" for tuberculosis which has been announced to us from abroad and for which the newspapers claim the impossible. In all the absurd write-ups from the lay press which have come to the writer's desk in the course of the last two weeks, there are not five which counsel caution in any expectation that may be raised by Dr. Friedmann's announcement. Some of them put claims and assertions in his mouth which no physician could ever be guilty of.

The principal objections which may be raised against the remedy are:

1. That its value has not been demonstrated sufficiently by animal experiments. It appeared in the discussion of Dr. Friedmann's paper, that guinea pigs which had been immunized against a virulent tuberculous infection by Friedmann's remedy lived about four times as long as did the controls. If we compare with this the results of an American physician who announced a prophylactic remedy for immunization against tuberculosis last May (von Ruck, *Jour. A. M. A.*, 1912, May 18; *Medical Record*, 1912, Aug. 31), we are at once struck with the fact that his immunized animals entirely resisted a virulent tuberculous infection to which the controls succumbed in the course of 40 days. According to a recent personal communication to the writer, Dr. von Ruck's immunized animals have now been kept under observation for over one year and show absolutely no signs of tuberculosis.

2. Dr. Friedmann does not appear to have supplied the proof that the injection of his remedy increases the specific antibodies against the tubercle bacillus, such as agglutinins, precipitins, specific amboceptor, opsonins, which have come to be looked upon as an index of the resistance of a tuberculous organism. These antibodies were increased promptly in the children and adults immunized by Dr. von Ruck with his remedy and went parallel with the clinical improvement that was manifest in his patients.

Finally, although Dr. Friedmann has employed piscine (turtle) tubercle bacilli, and although he believes he has reduced their virulence decidedly by a certain method of subcultivation, we must condemn *a priori* any remedy whatever in which living tubercle bacilli are introduced into the organism of young children for the purpose of immunization or for the purpose of curative treatment. This point was brought out in the discussion in the Berlin Medical Society, especially by such men as Citron and Klemperer, and would in itself suffice to throw the remedy out of court without any further discussion.

The writer admits that this very strong assertion is debatable, but he is firmly convinced that the introduction into the body of living tubercle bacilli, no matter how attenuated, no matter how subcultured, is undesirable. It has been shown definitely that it is possible to obtain the desired end by the introduction of killed tubercle bacilli or bacillary substances (extractives), and it would be foolhardy, to say the least, to run any risk whatever of infecting the little children whom we desire to protect.—ED.]

JUST AMONG FRIENDS

A DEPARTMENT OF GOOD MEDICINE AND GOOD CHEER FOR THE WAYFARING DOCTOR

Conducted by GEORGE F. BUTLER, A. M., M. D.

THERE is no doubt that immediately subsequent to the discovery of American tobacco, it spread all over the world and its employment by Sir Walter Raleigh made it peculiarly fashionable in the British Isles. Still, the Romans and Irish employed pipes for smoking long ere the Christian era, but the dried leaves of aromatic plants were smoked, not tobacco! The English (as a carving at Stratford upon Avon demonstrates) had done the same long before Columbus discovered America. Botanic evidence demonstrates that tobacco was indigenous in China and Western Asia. Tobacco has been cultivated and used along the Yang-tse-Kiang from time immemorial. Tobacco from the East hence probably encountered tobacco from the West.

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At first tobacco, like strongly alcoholic substances, was regarded as a medicinal preparation and its sale confined to apothecary shops. In America it had a quasi-religious function, whence its use in peace ceremonies. The typical effects of tobacco occur as a rule after long continued use, sometimes not until twenty years or more. While many smokers reach old age, many fail to live to be old because they are smokers. The skin itches and becomes red, the nerves of taste are blunted, and patches develop in the throat; there is loss of appetite, epigastric fulness, pain and vomiting; and disturbances of the bowel function are common.

In women, menstrual disturbances may occur. In female cigarmakers, abortions are frequent. The sexual appetite is impaired and sometimes sterility and impotence occur. Disturbed heart action, palpitation, rapid and intermitting pulse, precordial anxiety, weakness, faintness and collapse, with sclerosis of the coronary arteries and left ventricular hypertrophy, are of common observation. Cigars and cigarettes produce irritation of the nasal mucous membrane, diminished olfactory sensibility, chronic hyperemia of the epiglottis and larynx, sometimes even of the trachea and bronchi. Bilateral nicotine amblyopia is common, with central disturbance of the field of vision, a central horizontal elliptical scotoma for red and green, sometimes also of blue in a lesser degree. Often there is swelling of the auditory tubes and tympanic congestion, with paresis of the auditory nerves and its consequences, such as noises in the ear.

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The central nervous functions are also affected. In the higher schools non-smokers get on better than smokers. Children from nine to fifteen years of age who smoke show less intelligence, developing laziness and a craving for strong drink. Adults are liable to cephalic pressure, insomnia or its converse (sleepiness), depression, apathy, aversion for work and dizziness. There may also be ataxic symptoms, paretic weakness of the sphincters, trembling and spasms. Nicotine psychoses rarely affect smokers, occurring more commonly in snuffers and still oftener in chewers. The prodromal stage which lasts about three months, shows general uneasiness, restlessness, anxiety, sleeplessness and mental depression of a religious type. After this follow precordial anxiety and finally the psychoses proper, consisting of three stages: (1) Hallucinations of all the senses, suicidal impulses, depression, attacks of fright with tendency to violent insomnia. (2) Exhilaration, slight maniacal exaltation, agreeable hallucinations; after from two to four weeks relaxation occurs again, followed by a hypomaniac state. The intervals between exaltation and depression diminish, the patient become irritable but elsewise not alive to his surroundings; perceptions and attention being lessened. It is claimed that the patient usually recovers in five or six months if he stops the use of tobacco during the first stage; in a year or so, if during the second stage. After the third stage the disease tends to pass into dementia.

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As the patient often becomes (especially through the use of the cigarette) an habitué ere puberty, proper development and balance of the sexual and intellectual system is checked. These patients break down mentally and physically between fourteen and twenty-five. The moral delinquencies other than sexual often show an especial tendency to forgery and deceit of parents. These are most often due to the insanity of puberty (hebephrenia), being precipitated by tobacco. The cigarette, if used moderately, may be a sedative, but as used it is a stimulant and is often made of spoiled tobacco resembling morphine in reaction, and on animals acting in a somewhat similar manner. As tobacco turns the salivary glands (which are concerned in the digestion of starch) into excretory glands it leads to imperfect digestion of starch, and to consequent irregular fermentation in the bowel, thus at once furnishing a culture medium from which microbes form more violent toxins and also create leucomains to interfere especially with a nervous system overstimulated by nicotine. This is one great reason why those who snuff and chew tobacco more frequently become insane from tobacco than smokers, albeit these last are not exempt.

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Statistics from the female employees of the Spanish, French, Cuban, and American tobacco factories, while defective and somewhat vitiated by the coexistence of other conditions producing degeneracy, support the opinion that the maternal tobacco habit, whether internal or the result of an atmosphere consequent on occupation, is the cause of frequent miscarriage, of high infantile mortality, of defective children, and of infantile convulsions. Tobacco in its influence on the paternal and maternal organisms hence so exhausts the nerve system so that an acquired neurosis results in such a way as to be transmissible.

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Laboriously the infant attains to his feet, laboriously through the years of childhood and of youth, in the playing-field and on the hillside, these feet acquire familiarity with the ground; but not till manhood do they take full possession. The secure foothold, the elastic step measure the degree of this possession, and they stand as the surest index of physical health; for in the balance, static and dynamic, of which they give proof, we see the evidence of well-trained muscles and nerves, of a stable and highly organized central nervous system, higher and lower, of a vigorous and sustained circulation, an efficient digestion, and, lastly, a well-ordered metabolism, without which all would fail.

One might select any lesser function, and say of its performance that all this, to the last detail, was required. This, indeed, would be true, since the health of the part implies the health of the whole, but physically no better illustration of the cooperation of all parts could be given than this of the well-balanced firm tread.

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In ancient times, to stumble was of evil omen, for the proudest achievement of man, the upright posture, was imperiled; and fear, when it took possession of the heart, expressed itself in a loosening of the knees—"and of the Greeks the knees were loosened with dismay."

Other psychic states show themselves not less clearly in gait and posture; for, while fear lags in its approaches and distrust halts, courage advances boldly with a clean step, and confidence awaits stout-heartedly.

Thus in health; but in sickness it is otherwise. Now no longer is the real man in evidence; for, however dauntless the courage, the firmest step must give way to the assaults of disease, the first effects of which are to take the child off his feet and to deprive the man of that spring and elasticity which till then had characterized all his movements.

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In a somewhat obscure passage Dante speaks of "the firm foot." The obscurity we may leave, the term we would hold, since it expresses in fewest words that of which we all are seekers, marking, as it does, the highest standard of physical health. Given health—given the firm foot—we may hope to go far. True, there are many things we cannot be—"*Roi ne puis, Duc ne suis, ni Comte aussi, mais Grand Seigneur de Coucy*"—but, if health be given and the heart be in the right place, each in his own way may be Grand Seigneur de Coucy. Life, however regarded, is, in all its spheres of activity, militant; if it is to be triumphant it demands a martial bearing.

This, then, is the goal, "the firm step." How shall it be compassed? By many ways, which we may not stop to consider, since it would take us away from that which we have in view—the order of treatment. Accordingly, that which now concerns us is the attitude in which disease, in each instance, should be faced; shall the patient stand, or sit, or lie? This is the first question which we must ask ourselves.

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As a general rule, it is good counsel that things be not taken "lying down"; of things spiritual this is, perhaps, always true, but of things corporeal it does not hold. In sickness, more often than not, the storm passes safeliest over the prostrate figure. Each individual case, however, must be judged upon its merits, for there are forms of disorder in which the bed is to be shunned. Broadly, the test-question will be, Do we or do we not wish to economize the vital forces?

In the healthy adult the efforts requisite to maintain the erect posture are deep down below the surface of consciousness. As health declines, these efforts in their subjectivity tend to rise into recognition, and in the end this cognizance may become painful in its intensity. But, conscious or unconscious, the expenditure of force demanded will be unaffected; the forces which maintain the body upright have a fixed mechanical equivalent, and this equivalent it is of which we must ask, Can the body afford it? Here lies the only reliable criterion.

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Physiologists tell us that mere position, apart from the efforts required for its maintenance, has an influence upon the pulse-rate; this being quickest in the upright, least frequent in the recumbent posture. This pulse acceleration may be no true measure of effort for the whole body, but it may speak for the physics of the circulation alone—its mechanical advantage or disadvantage in the respective positions. Be this as it may, it is from the point of view of force expenditure alone that we can approach the subject, for, if position as such tells, it only will add an *a fortiori* value to the argument.

Every form of acute disease threatening exhaustion demands the bed for a longer or shorter period; nevertheless we must not forget that, apart from the economy involved, the recumbent posture is not an unmitigated blessing, but brings with it disadvantages, both general and local. Thus it means stagnation of the system generally as well as of the part, and both conditions may seriously endanger life. The sluggish metabolism of the entire body induced by confinement to bed obviously is detrimental, and to make clear the serious bearing of stagnation upon the local disorder we need only instance the risk of a hypostatic congestion of the lungs.

These contraindications, then, must be carefully weighed against the indications for rest, before a decision is arrived at. Fortunately, many times we are able to meet these disadvantages of posture by devices of one kind or another. Thus, of late years the development of massage and of the system of movements, active and passive, has allowed us much more safely to apply the general principal of rest, since by these means we can in a sense take exercise for the patient.

At whatever stage of the illness—at the onset, during the period of maximal stress, in the decline, and throughout convalescence—this question of posture and of movements as the means of apportioning the rest and exercise which we deem advisable will require primary consideration and a nice judgment.

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Next in the order of treatment must be weighed the question of the nurse in the twofold aspect which she presents: in the first place, as an instrument of rest; as a means, that is, of applying this principle more completely by the skill with which she economizes the forces of the patient; in the next place, as the companion and expert, who by her presence conveys to the patient that sense of security the comfort and value of which it is at times difficult to overestimate. This second aspect is essentially psychic, but, inasmuch as repose of mind may be as essential to the recovery of the patient as repose of body, it is not less important.

From either point of view, the nurse ministers as the instrument of rest; and by the care which she bestows upon details she will give proof of her efficiency; and not by her cap and apron; for, as the cowl makes not the monk, so the uniform makes not the nurse.

The value of the nurse as a means of saving the bodily forces of the sick is obvious, but too often do we overlook her psychic value. We are not discussing here the question of the mental nurse as a specially trained attendant, but the nurse in her all-around fitness to wait upon disease.

The pathology of loss of confidence is obscure, but, it looms large in the sufferings of the patient, and it is frequently far more baffling to the physician than the more material manifestations of disease. Panic, loss of nerve are other names for the same phenomenon. In the hurly-burly of life, though health prevail, panic may prove a supreme moment, as history relates; in the sick-chamber it is not less vital. Unto such as suffer in this manner we must lend courage, as we would lend strength of muscles to the infirm body—to this end companionship.

These two aspects will not sum up all the points of view which the subject of the nurse presents, but they are, the most important!

(*To be continued*)

AMONG the BOOKS

TWO BOOKS BY W. J. ROBINSON

Sexual Problems of Today. By Wm. J. Robinson, M. D. New York: The Critic and Guide Company. 1912. Price $2.00.

Practical Eugenics: Four Means of Improving the Human Race. A lecture by Wm. J. Robinson, M. D. New York: The Critic and Guide Company. 1912. Price 50 cents.

That the American Society for Sanitary and Moral Prophylaxis was formed in response to an actual and very serious need, and that it, like many other societies with a similar program, is doing much good, can no longer be doubted, in spite of the shocked and prudish cry of "Shame" that is still heard, although muffled, here and there.

The present time is characterized, not only for its accomplishment, but even more for its insistence on delving into the causes of things that were not only unknown but supposed to be unknowable only a short time back. This insistence in wanting to know is so decided and so emphatic that expressions like those imputed to "The-Man-from-Missouri," who wants to know, and of the supposed Japanese correspondent of *The Daily News* who "asks for to know," have become popular if slang expressions.

This principal characteristic of the times has now extended to a field that had been covered by the veil partly of the mystic, partly of an entirely artificial disgrace, as though the Creator could produce anything shameful. From a worship, in olden times, of the generative organs, as typifying the life-giving power, the pendulum swung to the other extreme and made the sexual life and everything pertaining to it taboo. Even physicians who occupied themselves with irregularities or diseases of the sexual functions were until recently recruited almost entirely from the ranks of irregular practitioners, and to this very day in many foolish minds a certain odium attaches to reputable physicians who dare to devote themselves particularly and even exclusively to this field of medical endeavor. The genitourinary branch of medical science has found it difficult, indeed, to establish itself on a respected, we might almost say respectable, basis.

That the cloud that lay over this whole subject was artificial and foolish cannot be denied, and for a number of years an awakening, a gradual realizing of the error has been going on, and the movement for the socalled sex enlightenment has made rapid strides both here and abroad. It goes without saying that this movement goes into many by-paths and goes astray in many ways, because not only is the subject an extremely difficult one, but it is also very delicate, and those in its van must feel their way and must even determine the facts that have to be brought out. Nevertheless, through storm and stress the movement is passing toward a well-established and reasonable understanding of the problems involved, and the next generations will be the better for the struggles of today.

Among the foremost fighters for a reasonable and sane, indeed for a decent consideration and treatment of sex problems, stands Dr. Wm. J. Robinson, the editor of *The Critic and Guide* and of other medical journals, and the author of many important books. Dr. Robinson is an iconoclast who ruthlessly steps over foolish prejudices and mercilessly uncovers sham and untruth and lies; absolutely fearless in what he says, he voices his convictions in no uncertain terms and hammers away at the problem so that no one can say he has not heard.

Dr. Robinson's position on the problems herein mentioned was well defined in his "Never-Told Tales," a book that was reviewed in these pages some time ago, and also finds expression frequently enough in his many journal articles and editorials. Recently a more ambitious and extensive publication has appeared, in which the lessons conveyed in "Never-Told Tales" as well as the principles fought for by the author are developed more fully and elucidated more clearly.

The latest of his books "Sexual Problems of Today," is distinctly one of Dr. Robinson's own, his style, his forceful personality pervades every page and there can be no mistake about his meaning. Giving the lie to the old saying that he who touches pitch becomes soiled, the author never is objectionable in his diction or in his assertions. Clean throughout; terribly in earnest; almost awful in the truths that he utters; forceful in his insistency upon his convictions, Dr. Robinson hammers his lesson home. Every physician is strongly urged to read and study this book, as well as the other volume by the same author on "Practical Eugenics," in which some phases of the same problem are discussed.

A NEW GERMAN REVIEW JOURNAL

Through the courtesy of the publisher, Julius Springer (Berlin), we have received the initial number of the *Zentralblatt für die Gesammte Innere Medizin und Ihre Grenzgebiete* (*Kongresszentralblatt*), which is to form the official organ of the German Congress for Internal Medicine, that convenes annually in Wiesbaden and before which the latest acquirements of medical research are reported and discussed.

In accordance with the immense field of investigation and observation with which the internist must be familiar, the departments of this new review journal will include general and experimental pathology, the infectious diseases, organic diseases, diseases of metabolism and of the nervous system, morphologic hematology, pharmacology, physical therapeutics, balneology, and, further, the "borderland" subjects between medicine on the one hand and surgery, gynecology, dermatology, ophthalmology, otiatrics, and pediatrics on the other hand.

The reviews contained in this first number indicate a broad familiarity with current literature and a sympathetic appreciation of the needs of the student, as of the practitioner who desires to keep abreast of the times. They promise valuable assistance to be rendered in future issues. The *Zentralblatt* is published by a committee of the German Congress for Internal Medicine, the price being 32 marks ($8.00) per volume.

KRAUSE: "SURGERY OF THE BRAIN AND SPINAL CORD"

Surgery of the Brain and Spinal Cord, Based on Personal Experiences. By Prof. Fedor Krause, M. D. English adaptation by Dr. Max Thorek. Volumes II and III. New York: The Rebman Company. 1912. Price, per volume, $7.00.

The second volume of this splendid work discusses the subjects of epilepsy and of neoplasms of the brain, the latter being continued in the third volume, which, further, takes up the subjects of intracranial suppuration, of metastatic processes, and of injuries to the brain, and then deals with surgical diseases of the spinal cord. The work is handsomely illustrated, has gained decidedly in value by not being a mere literal translation of the German original, but a free rendition and adaptation. Dr. Krause is too well known that his books should need special recommendation on our part. We merely will say that the English version is an excellent one.

Personally, we have come to await with pleasure the announcement of new publications of The Rebman Company, but embrace this occasion to urge physicians to write to this publishing firm for their latest medical catalog, issued a few weeks ago, which contains the titles and descriptions of many works of value to American practitioners. Mr. Rebman has set himself the aim to make the best that has been published in foreign medical literature available to American physicians; and in this he has succeeded admirably. The Rebman books are distinctive and beautiful in their mechanical makeup, and, owing to the exceeding care exercised in the selection of the English (or American) editors, the translations, which often present an exceedingly difficult problem, have been remarkably well done. We congratulate Mr. Rebman on the enviable place which his firm has obtained in the world of medical publishers.

ELLINGWOOD: "UNCOMPLICATED PREGNANCY AND LABOR"

Uncomplicated Pregnancy and Labor: Presenting a simple scientific method of treatment of the disorders of the pregnant term for their cure, and for the prevention of the complications of labor; to induce a normal balance of all functions, so that a labor without pain in very large part is the result. By Finley Ellingwood, M. D., Chicago. 1912. Published by the author. Price $1.60.

If pregnancy and child-bearing are normal physiological functions in every particular, as they certainly should be, no pathological complications whatever must be tolerated. It is an unjustifiable mistake for a physician at this day and age of the world to overlook the long train of apparent minor pathological conditions, passing them by with the statement that, because the woman is pregnant, they must be endured. The physician must see to it that these obstructions are prevented, overcome, removed—and not say that they must be endured.

In the volume before us the author has laid out a course of observation and care on the part of the physician that will guide him materially in the highly essential education of the pregnant woman in these matters and in his care and treatment of her. In every chapter, whether he discusses motherhood, or the causes resulting in the disorders of pregnancy and in complications of the puerperium, or the hygienic rules, the diet, the management of labor, the therapeutic suggestions, the author has succeeded in imparting the knowledge that he has gained by years of experience and observation in such a manner that the little volume of only 160 pages contains an amount of information and guidance truly remarkable.

Dr. Ellingwood is to be congratulated on this little volume, and even more are physicians to be congratulated for having at hand, in a readily accessible form, that guidance of which often they are in need and by which they can the more easily benefit their patients.

STEDMAN: "MEDICAL DICTIONARY"

A Practical Medical Dictionary. By Thomas Lathrop Stedman, M. D. Second revised, edition. Illustrated. New York: Wm. Wood & Co. 1912. Price $4.50.

The reviewer has had occasion to express, in the October, 1911, number of CLINICAL MEDICINE, page 1121, his appreciation of Stedman's Dictionary, and a year of constant use only has served to confirm the favorable opinion then formed of this excellent reference book. While a few general criticisms in which the reviewer indulged at that time seemingly were overlooked in the preparation of the second edition, he is much pleased to be afforded opportunity to examine the book; and he now can only confirm the praise that was accorded this dictionary on its first appearance.

Owing to some literary work occupying the reviewer in the course of the past year, he became rather interested in veterinary terms, and was glad to find that Dr. Stedman had made the attempt to render his dictionary serviceable to veterinarians also. Unfortunately, this attempt has not gone very far, as evidenced by the single instance we will quote, to wit: We find that the terms rumen and abomasum, that is, the first and the fourth divisions of the stomach of ruminnentias, are defined; but, curiously, no mention is made of either of the other two divisions, the reticulum and the omasum. This, of course, is an oversight that without doubt will be corrected in a subsequent edition. Here and there differences of opinion arise, as a matter of course, but, as a whole, the reviewer considers Stedman's Medical Dictionary one of the best at the command of the doctor.

HART: "MIDWIFERY"

Guide to Midwifery. By David Berry Hart, M. D. With four illustrations in color and 268 diagrams. New York: The Rebman Company. 1912. Price $6.00.

For many years Edinburg was one of the Meccas to which medical students and graduates were wont to travel, from near and far, to obtain the best that was known about midwifery; and the name of that Scotch city is closely connected for all time with that of Sir James Y. Simpson, who not only was a great obstetrician, but through whom childbirth was robbed of many of its terrors, since it was he who, in 1847, introduced chloroform as an anesthetic in obstetrics.

The present volume is of interest because it presents the result of the investigations and experiences of Edinburg obstetricians; not, though, that it is at all provincial or limited, for it acknowledges good work done elsewhere.

BENNETT: "ELECTROTHERAPEUTIC GUIDE"

The Electrotherapeutic Guide, or, A Thousand Questions Asked and Answered. By Homer Clark Bennett, M. D. Ninth edition, revised and enlarged; containing 425 illustrations. Published by the author, Lima, Ohio. 1912. Price $3.00.

This "Guide" is a corollary to and part of the mail-course of thirty lessons issued by the National College of Electro-Therapeutics. It does not take the place of textbooks or a course of lessons on the subject, and is not intended as such; neither is it intended for the expert specialist. Rather is this "guide" meant to serve the general practitioner who has but a limited knowledge of the subject but wishes to avail himself in a modest way of this means of healing.

As indicated in the title, the subject-matter is arranged in the Socratic form of questions and answers. The text is lucid and clear, and is rendered still more intelligible and available by many illustrations. Dr. Bennett's book is to be recommended for its eminently practical value and is sure to find favor with physicians who are using electricity in their practice.

DAWSON: "ORIFICIAL SURGERY"

Orificial Surgery: Its Philosophy, Application, and Technique. Compiled and edited by B. E. Dawson, M. D.; assisted by Elizabeth H. Muncie, M. D., A. B. Grant, M. D., and H. E. Beebe, M. D. Authorized by the American Association of Orificial Surgeons. Newark, N. J.: The Physicians' Drug News Company. 1912. Price $5.00.

This work represents the development of investigations and of surgical endeavor that have for a number of years been promulgated especially by Dr. E. H. Pratt of Chicago. Orificial surgery has made for itself a certain place as a branch of surgery and affords a fruitful field of specialized work. The present volume contains a large number of contributions by various surgeons upon the subject, among which we find such well-known names as H. E. Beebe, C. S. Eldridge, E. H. Pratt, P. S. Replogle, and others. It will prove a valuable reference work to the general practitioner.

MURPHY: "SURGICAL CLINICS"

The Surgical Clinics of John B. Murphy, M. D., at Mercy Hospital, Chicago. Published Bimonthly by The W. B. Saunders Company, Philadelphia. Price, yearly, $8.00.

The latest number of Dr. Murphy's "Clinics"—October, 1912. Vol. 1, No. 5—is introduced by some remarks on anesthesia made at the clinic, in which the author pays tribute to the sister-anesthetist in Mercy Hospital who has administered the anesthetics to his patients for many years. He contrasts the efficiency which naturally follows such a continued service with the plan followed in many large hospitals where the anesthetics are given all too frequently by inexperienced men, perhaps by the youngest interne. The rest of the number is taken up by a variety of operations, these being discussed in the usual happy manner established by these Clinics; they include such operations as the relief of nephrolithiasis, cholecystitis, gastroduodenal ulcer, chronic mastitis, etc.

ZINSSER: "DISEASES OF THE MOUTH"

Diseases of the Mouth. For Physicians, Dentists, and Medical and Dental Students. By Prof. Dr. F. Zinsser. Translated and edited by John Bethune Stein, M. D. With 52 colored and 21 black and white illustrations. New York: The Rebman Company. 1912. Price $7.00.

This volume deals entirely with the subject of syphilis and similar diseases as they affect the mouth. It is neither a general treatise on syphilis, nor is it a textbook, but rather a pictorial atlas of the syphilitic and kindred affections of the oral cavities, with particular reference to differential diagnosis; treatment being merely indicated.

The book is principally of value because of its fine illustrations in colors, which have been reproduced from specimens collected in the museum of the Hospital of Saint Louis in Paris. The text is concise and largely descriptive, which is not a detriment, considering the intention of the work, as well as the author's distinct assertion that it is not meant to be a textbook. The execution is elegant, after the manner to which we are accustomed in the Rebman books. We are particularly delighted with the wide margins, which permit the insertion of marginal notes and comments.

BLAIR: "MOUTH AND JAWS"

Surgery and Diseases of the Mouth and Jaws. A Practical Treatise on the Surgery and Diseases of the Mouth and Allied Structures. By Vilray Papin Blair, M. D. With 384 Illustrations. St. Louis: The C. V. Mosby Company. 1912. Price $5.00.

In the same degree in which dentistry is being recognized as a specialty of medicine, diseases of the mouth and jaws, both surgical and otherwise, are receiving more and more attention; which is very fortunate, because until comparatively recently the subject had received but scant attention. The author's treatise presents a very complete discussion of his subject and will surely find a ready reception, with physicians as well as with surgeons and dentists. One word in criticism may not be amiss; namely, in the discussion of the induction of anesthesia, we miss all reference to the use of hyoscine and morphine combined. This is unfortunate, inasmuch as this combination has proved of as great advantage in the hands of dental practitioners, as it has in the practice of surgery.

CONDENSED QUERIES ANSWERED

ANSWER TO QUERY

Answer to Queries.—Referring to your answer to Query 5865, in the November issue of Clinical Medicine, I wish to say that the one who gives the advice about the removal of a wart on the eyelid by electrolysis is mistaken. A positive pole is not to be attached to the needle; it should be the negative, while the positive pole is placed in the patient's hand and attached to a wet-sponge electrode or wrist-band. Kindly correct that in your next issue.

Regarding Query 5860, I am sorry that the inquirer does not get any other advice but to give drugs. The application of heat, also the application of high frequency, by far excels any medicinal treatment of intercostal neuralgia and pleurodynia. The salicylates in moderate doses might be given, but only afford temporary relief in the majority of cases.

Max J. Walter.

Philadelphia, Pa.

QUERIES

Query 5873.—"Uterine Contractions and Cramps." J. L. A., Illinois, reports the case of a woman patient 25 years of age, who has given birth to four children and always enjoyed the best of health. Her first confinement was normal, but the last three were instrumental: normal pains were entirely absent. She suffered no pain with any of her children. Menstruation has always been irregular between births, but experienced no suffering during the period.

On February 15, 1912, this woman had a slight hemorrhage from the uterus, but examination revealed no dilation; also, she was suffering no pain and was able to do her usual housework. On the 16th she had another hemorrhage. Examination disclosed that one hand and foot of the fetus were protruding from the uterus; but they were replaced without difficulty and without causing pain. A later examination revealed a prolapsed funis with placenta prævia and profuse hemorrhage, but there were no pains. Severe cramping in the thighs was present. Hyoscine, morphine and cactin, and chloroform were given, and the child was delivered; the feet being brought down first, the head acting as a plug, preventing further hemorrhage.

The doctor concludes: "Would you or some of your readers kindly tell why this patient suffers no pain during labor; also, why she has those severe crampings in the thighs? What would be the correct treatment to produce natural pains and relieve the cramps?"

Really, it is impossible, because of a total lack of knowledge of the uterine and pelvic conditions here to express a positive opinion as to the cause of the absence of labor-pains in this woman.

The contractions of the uterus possess four distinct characteristics: they are intermittent, peristaltic, involuntary, and (ordinarily) painful. Just why contractions begin is a moot point. It is generally understood that the wave commences in the region of the tubes and passes downward toward the cervix; but, strangely enough, the "pain" during the "initial contractures" last from 60 to 90 seconds, while the peristaltic contraction persists but one-half that period. It is true that nervous influences must be reckoned with—fear, the presence of strangers, anger, and so on, may cause more frequent or more tardy contractions.

Nevertheless, as in all unstriped muscle-fibers, contractions are involuntary. Careful observation leads us to believe that the sensation of pain is experienced only during the height of contraction, which commences and ends painlessly. The earlier pains are far from being severe in the average female.

In fact, active contractions of the uterus are known to take place without causing the slightest distress, but later, as the time approaches for the expulsion of the fetus, the lower segment of the uterus is particularly acted upon and dilatation of the cervix commences. Now the patient experiences *pain.* Usually it is referred to the sacrum and sides of the uterus. If the parts are flaccid and the birth-canal is roomy, the pains are not apt to be so severe, and, if, as is generally supposed, most of the discomfort is due to the obliteration of the cervix and pressure upon the maternal parts by the oncoming head, we can readily understand that the woman whose parts are large and relaxed has practically no cervix to dilate, therefore pressure does not occur, and she escapes with very little suffering.

More or less distress is occasioned, unquestionably, by the compression of the uterine nerves, and especially is this the case during the third stage. It is just possible that uterine anesthesia obtains in certain cases and pressure, therefore would not produce pain. We all know that some women can practically deliver themselves without experiencing distress worth speaking of. The writer has for years pointed out that relaxation of the parts tends towards painless delivery. In more than one instance he has succeeded, by giving castor oil and having the abdomen and perineum thoroughly rubbed with olive oil, in rendering labor practically painless to women who in their prior accouchements suffered abominably.

Some abnormal condition exists in the woman under observation, and we suggest that you make a very careful physical examination. Especially look for anesthetic areas along the spine. Test the reflexes. Observe the position of the uterus and its size. Find out whether the woman feels ordinary pain as acutely as other people. It must be remembered, of course, that the muscles of the limbs undergo considerable strain during the expulsion of the fetus. Muscle pains may also be due to the presence in the blood of toxic substances. The urine and blood should be examined.

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Query 5874.—"Chronic Leg Ulcer." J. M. S., Kentucky, has under treatment a lady, 60 years old, who has been suffering with a "sore leg" for twelve months. The sore is located on the outside of the calf, about midway between ankle and knee, first appearing as a small blister. When she scratched it, it became worse, developing into a very ugly sore of about three by four inches in extent. Under treatment it has reduced to about one and one-half by two inches, and is looking a great deal better, but has remained stationary for three months.

This description seems to indicate a necrotic ulcer, and we are inclined to advise this line of treatment: Clean the sore thoroughly with hydrogen-dioxide solution, wash away the froth with boric-acid solution, then, with a small ear-spoon and scissors trim away any necrotic tissue disclosed. After drying, apply pure oil of turpentine with a camelshair brush, then dress with a good antiseptic oil on gauze, continuing until a healthy condition is established. Then begin with applications of defibrinated bovine blood, following this technic:

First very thoroughly cleanse the wound. Now cover the sore itself with a piece of rubber tissue plentifully perforated with small holes; over this place a pad of gauze saturated with the blood preparation selected, protecting this with rubber tissue; over all place a liberal quantity of sterile gauze and bandage lightly. The dressing should be changed twice daily, the lesion being first flooded with warm boric-acid solution. If there is any trouble in securing cicatrization, make a few pin-point grafts, placing minute particles of skin at short intervals over the surface of the lesion, then dress as above. If there are any varicosities, one can not do better than to use Unna's dressing. In fact, most of these old sores yield very promptly under such treatment.

A very satisfactory antiseptic elastic paste which is applied in connection with an especially woven bandage, is now marketed. The dressing is left on from four days to a week and then changed. Healing is usually secured within a month.

It will probably be advisable to give the arsenates and irisoid to this patient, together with, perhaps, nuclein, 8 or 10 drops morning, noon and night. Maintain elimination—renal, dermal and intestinal.

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Query 5875.—"The Business Side of Practice." J. M., Texas, regretfully canceling his subscription for Clinical Medicine, writes as follows: "I have been here two years and a half and have not made expenses, but I shall be obliged to remain for six or seven months longer. You may think I have no practice, but that is not it: I gave credit to everybody who asked for it. And that was the end of things. Worse still, I dispensed my own drugs (mostly the active principles in granule and tablet form), and lost the cost of those also. I have scores of bills standing out, ranging from 8 to 225 dollars, but cannot collect a cent. Now I refuse to treat anyone until the fee is paid, with the result that I really have no practice at all."

This is an unfortunate situation, indeed; still, things may not be as bad as they look and yet work out satisfactorily. Really, a good doctor, who uses the active principles correctly, should be able to command a remunerative practice. That is what thousands of them throughout the country are doing, for the public in these days patronizes the man who accomplishes things. The physician who diagnoses closely, recognizes the pathological conditions in his patients, selects the *right* remedies, and prescribes them in small oft-repeated doses to effect *is bound* to secure good results and the good-will of his community.

The great trouble is that the average doctor is not a business man. He does not keep his accounts closely, nor insists upon monthly settlements. The present writer has preached the necessity for such procedure for, lo! these many years, yet, he himself at the present time has outstanding accounts aggregating two or three thousand dollars; many of his patients having owed from twenty-five to one hundred dollars for more than a year. They are perfectly good for their debts, and, if pressed hard, would settle. Somehow a doctor dislikes to ask urgently for what is due him, notwithstanding the fact that everybody else invariably pushes him.

The sooner we all realize that there is a business side to the practice of medicine and we proceed along well-established business lines, the better it will be for us. There certainly would be less penniless widows and children to live as a reproach to the profession. If we are dependent upon our earnings and give real service for the money we demand, we should, like other paid workers, enforce periodical settlements. The landlord, butcher, baker, clothier, and all the rest insist upon being paid at least monthly, and the doctor has to pay their bills as surely as other people or go without the necessaries of life.

In order to secure the necessary funds, the doctor faces heat and cold; he wrestles with death at dawn, midnight, noon; he relieves suffering, dispels misery, bears the burdens of others. He is father confessor, adviser, consoler, and often supreme judge. In his hands rest the happiness and reputations of men and of women. He supports the young mother through the pangs and perils of childbirth and gives her offspring a fair start upon the road of life. He wards off disease whenever that is possible—thereby really injuring himself—and when illness does come he endeavors to restore health as quickly as possible; again in this way reducing his own potential income.

Working always faithfully for others and thinking never of self, it is perhaps not to be wondered at that the doctor is a "poor collector"; but no man living earns his money more honestly than he, and the wise ones will see that they get it.

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Query 587.6—"Dorsal Myelitis." J. M., Texas, writes: "A young lady, age 24, about 5 feet 9 inches high, weight 126 pounds, auburn hair, florid complexion, bright eyes, fairly well nourished, of sanguine, nervous temperament, one night about seven years ago was attacked in bed by a very severe pain in the sacrum, followed by hemiplegia and partial paraplegia. Under medical treatment the former has been cured, but the latter condition remains. For some time the catheter had to be used, and even now she has only slight control over bladder and bowels. The flexor muscles of the thighs are tense, contracted and hard, and the lower legs are at right angles to the thighs. There is very little or no atrophy of the muscles. She can move her toes, but can not straighten the limbs. Digestion always was fairly well but has improved decidedly under the use of nucleinated phosphates. For the bladder trouble apis was tried, but without any result. What line of treatment do you suggest?"

To the foregoing communication we replied, in substance, as follows:

Before undertaking further treatment, go over this woman from head to foot—test the reflexes; examine the urine; and see whether you can detect any intrapelvic or spinal lesion. What is the family history; is there tuberculous or syphilitic taint?

In dorsal myelitis, it need not be pointed out, hyperesthesia, hyperalgesia, and spontaneous muscle contractions in the paralyzed limbs are some of the phenomena. Slight pressure on certain points may produce intense formication, sometimes contractions. Total sensory paralysis indicates a pronounced destruction of the cord; hence, the extent of sensory disturbance is of greatest importance, in order that we may ascertain the extent of the lesion. Further, anesthesia may extend from the tip of the toes to the clavicles; but in disease of the lowest dorsal-cord segment the anesthesia is limited to the legs, anteriorly reaching Poupart's ligaments, posteriorly, the lumbar vertebra. With each higher segment, the border of the anesthesia rises. In disease of the ninth and tenth dorsal segment, the anesthesia reaches the umbilicus.

It is only in the most marked cases of dorsal myelitis in which paralysis is complete and implicates all of the sensory and motor fibers. The legs no longer obey the impulse of the will, and only by dysethesia, pain, and involuntary contractions reveal evidences of life. The sphincters are insufficient. Sooner or later, unless great care is exercised, bed-sores and obstinate cystitis occur.

We suggest that you look into the history carefully; if possible, refer to some of the textbooks on diseases of the nervous system and study the clinical picture of dorsal myelitis. A very excellent discussion of the subject will be found in Salinger's "Diseases of the Nervous System," of the Modern Clinical Medicine Series. However, much more definite data than above present are required for the formulation of intelligent suggestions.

In answer to the foregoing, we received the following communication, describing conditions more in detail:

"There is no tuberculosis or syphilitic taint; there is no albumin, sugar, indican or other abnormal product (excepting some epithelium from the bladder) in the urine. Sensation in the legs is fairly good—better in the left than in the right one, the latter sometimes tingling up to the hip—the right atrophied more than the left; the right 10 inches, the left 11 inches in circumference at the calf. About four years ago a doctor in Savannah, Ga., straightened the right leg forcibly by a mechanical appliance, causing great suffering; but upon removing the apparatus the leg returned to its former position, by short jerks, and has remained so ever since. No attempt was made to straighten the left limb. After this operation the right leg swelled up enormously down to the toes and had to be bandaged. The left did not swell. After the swelling subsided blisters formed on the heel and toes, resulting in ulcers; but these subsequently healed.

"There is tenderness over the lower lumbar vertebræ. She can flex her legs on the thighs, and the thighs on the abdomen, without pain or distress. She is tolerably sensitive to atmospheric changes, and at such times the legs jerk slightly, especially if any weight, such as a book, is placed on her lap. I think I misstated the condition of bladder and rectum in my former letter. She retains the urine for three or four hours, but when the desire to urinate comes on she has no control; the same with the rectum.

"The partial anesthesia is limited to the legs (anterior and posterior portions), not extending above Pouparts' ligament. There is no hyperesthesia or pruritus. Moderate pressure over the lower portion of the lumbar vertebræ does not cause contraction or any other painful sensation in the limbs. Nutrition is fairly good; she has improved considerably as to appetite and sleeps nicely since taking nucleinated phosphates."

After this additional information, we have no doubt that you have to do with a case of dorsal myelitis, the lower segments alone being involved; but must say, with regret, that really very little can be done for this condition. Blisters and other forms of counterirritation must be avoided, because of the danger of bed-sores. Epsom-salt sponge-baths at 85 or 90 degrees may be given daily; also the galvanic current, with the electrodes applied to the vertebral column (general spinal galvanism) often is of service. Cystitis should be met by irrigation of the bladder with a solution of boric acid and the internal administration of formin compound and arbutin. The bowels should be kept open by means of injections, every morning, of one or two pints of salt solution (1 dram to 1 pint). The nucleinated phosphates and neurolecithin (preferably both, in alternation) are indicated.

Massage is of benefit in improving circulation and preventing wasting of the muscles. Many physicians recommend the straightening of the contracted limbs by the use of mechanical appliances or tenotomy. In compression-myelitis, pressure must be removed by means of proper orthopedic appliances.

The prognosis naturally is more serious in a rapidly progressive paralysis, and comparatively favorable when signs of paralysis are incomplete, bladder and rectal symptoms absent, and no serious complications (bed-sores, cystitis, etc.) show up. Only when regeneration begins is there hope of improve ment; that is, when the paralytic phenomena disappear, abolished reflexes return, and flaccid paralysis assumes a spastic character. Muscular regeneration is shown by an improvement in electric reaction. In mild cases, improvement does not take place for many weeks; in severe ones, not for months. Moreover (infrequently), a dormant inflammatory process may flare up again, destroying the effects of improvement and bringing about even more severe paralysis. When the symptoms of paralysis reach a definite stage of arrest, the patient may live for many years, but a cure can hardly be expected.

As we have pointed out, there is no really effective treatment, apart from specific treatment in syphilitic cases. Strychnine is of service, if the sphincters are involved, in anesthesia and in flaccid paralysis. By stimulation of the reflex-centers it increases the excitability of the motor nerves in the paralyzed muscles, and, in combination with electric and gymnastic measures, favors the restitution of normal conditions. Tonics, stomachics, laxatives, and so on, must be employed as conditions indicate.

We would strongly urge you to read the chapter on treatment in Salinger's "Diseases of the Nervous System"; special attention there is given to the physicomechanical treatment (massage, gymnastic exercises, electricity, hydrotherpay, and balneotherapy), treatment by apparatus and surgical procedures.

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Query 5877.—"Injection of Hemorrhoids and Hernia." A. A., New Jersey, wants to know where he can obtain knowledge regarding the injection-method of treating hemorrhoids and hernia, adding: "By this I mean practical work; some place where the work is done. I should like to attend such a place either as pupil or assistant. I have several textbooks on these subjects, but they do not meet my requirements."

It may be of some interest to more than one of our readers to have the present writer outline his own method of injecting hemorrhoids; for, really, it is not necessary for anyone to undertake a journey for the purpose of familiarizing himself with this simple procedure. For, indeed, it is simplicity itself, provided you are able to dilate a sphincter and differentiate between internal, marginal, and external hemorrhoids; and one should have no difficulty whatever in succeeding with the injection-method.

Follow the technic prescribed, absolutely. Never use a weak solution of carbolic acid. Always remember that success in a great measure depends upon making the injections into the hemorrhoidal tumors slowly, and to be sure to introduce a sufficient amount of the fluid to coagulate thoroughly the included blood. You may be sure of trouble if the needle-point enters the wall of the intestine; while, if the injection is not sufficient to cause thorough coagulation in the tumor, expect to have to deal with a painful and persistent slough. In all cases be sure to dilate the sphincter first.

Never inject an *external* hemorrhoid; it is much easier to anesthetize the skin with an ethyl-chloride spray, incise, turn out the blood clot, then finish with a stitch or two. Any *internal* hemorrhoid may be injected with safety. If the bowels are prevented from moving for forty-eight hours and then opened thoroughly, and the rectum is lubricated with a good antiseptic oil before and after stool, no trouble whatever should be experienced by the patient. Of course, a preliminary purge and cleansing colon flushing must not be neglected, as well as forbidding the subject to fill up with bulky food the last day. After operation, pertinent dietary rules hold good.

As to *hernia*, we cannot endorse the injection-method of treatment, although it is being practised by a number of physicians, and, in some instances, with success; still, failures must be expected. A physician always is liable to be sued for malpractice; and, quite naturally, a large percentage of recognized surgeons will be found to be opposed to the doctor who injects.

You might write to Dr. Depew, of Des Moines, Iowa, and ask him to give you data relative to his paraffin injection-method. Also, if you will communicate with Dr. Albright, author of "The General Practitioner as a Specialist" and editor of *The Office Practitioner*, Philadelphia, we are quite sure you will secure a fund of useful information. But we repeat, if you want to inject hemorrhoids, you cannot do better than to follow the method pursued successfully by this writer for many years, and as here outlined:

As the first step, ascertain whether the anal sphincter is constricted; if so, dilate thoroughly. Then proceed to expose the tumors; clean and anoint them with carbolized vaseline; halfway between apex and base insert the needle till the point is in the center of the tumor; inject *very slowly* 5 to 10 drops of a 50-percent solution of crystal carbolic acid in olive oil; turn the point of the needle to the right and inject 2 drops, then turn to the left and inject 2 drops more. If the pile is now white and hard, withdraw the needle. If blood follows the withdrawal, reinsert the needle and inject any unblanched portion, taking five minutes at least to complete the injection. Treat the largest of several tumors first. Attend to three at one sitting without fear. After injecting, again anoint the piles and return them.

Have the bowels kept closed for three days and then open with a laxative saline or castor oil. However, before the patient goes to stool, 4 ounces of some bland oil followed by a quart of hot water (105 to 112 degrees) should be thrown into the bowel. Also, it is well to inject, after each movement, an ounce of oil to which 2 minims of carbolic acid has been added. Pain after operation but rarely calls for an opium and hyoscyamine suppository. Use the best material and a large injection-needle.

The use of a concentrated phenol solution, enough of it, and thorough distribution of the medicament throughout the hemorrhoid until the tumor turns white or gray in its entirety are the main points. Bear in mind that some hemorrhoids are pocketed and that, if the solution is thrown in from one side, no matter how much it is, it will fail to affect a portion of the tumor in another part. In a case of this type, remove the needle and reinsert it into the unblanched area, injecting drop by drop until this tissue also has turned white. Should blood follow the needle on its withdrawal, apply pressure with a wad of cotton for a minute; if the bleeding persists, you may rest assured you have not destroyed the circulation, and must make another injection.

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QUERY 5878.—"Remedy for Conjunctivitis". J. L. C., New York, wants a good remedy for conjunctivitis. There are no fixed generally applicable conjunctivitis formulas, but we do not believe you can improve very much upon the following excellent collyrium: Boric acid, 5 to 10 grains; sodium sulphocarbolate, 2 grains; glycerin, 10 drops; water, 1 ounce. (One dram of rose water may take the place of an equal quantity of the water.)

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QUERY 5879.—"Chelidonoid in Carcinoma." W. E. McC., New York, is treating a woman of sixty-four years afflicted with carcinoma of the breast, a hard lump having developed close to the nipple. She was first treated by the Alexander method, later with red clover and other alteratives. The growth enlarged, however, and electricity (copper anode) was employed recently. At the present time an ulcerated surface, three inches wide, extends from the nipple downward and four inches from the nipple toward the arm. The patient has had one or two convulsions, and she is in a very depressed condition; also she is losing the sense of touch in and control of her right hand. The present medication is with phytolaccoid and tonics, and the doctor asks what we think of the addition of chelidonoid.

Phytolaccoid when given where indicated and in dose enough is a remarkably useful drug, and with irisoid and arsenic iodide might be of service in this case, but naturally you cannot expect a cure.

Chelidonoid has not proven as efficacious as its advocates hoped. Indeed, no internal treatment can materially influence carcinoma of the breast. Prompt extirpation of the affected mamma three years ago would have been the correct procedure. By this time metastases undoubtedly exist. The utmost you can do for this patient is to prolong life and relieve pain. Orthoform and carbenzol ointment will meet the latter indication.

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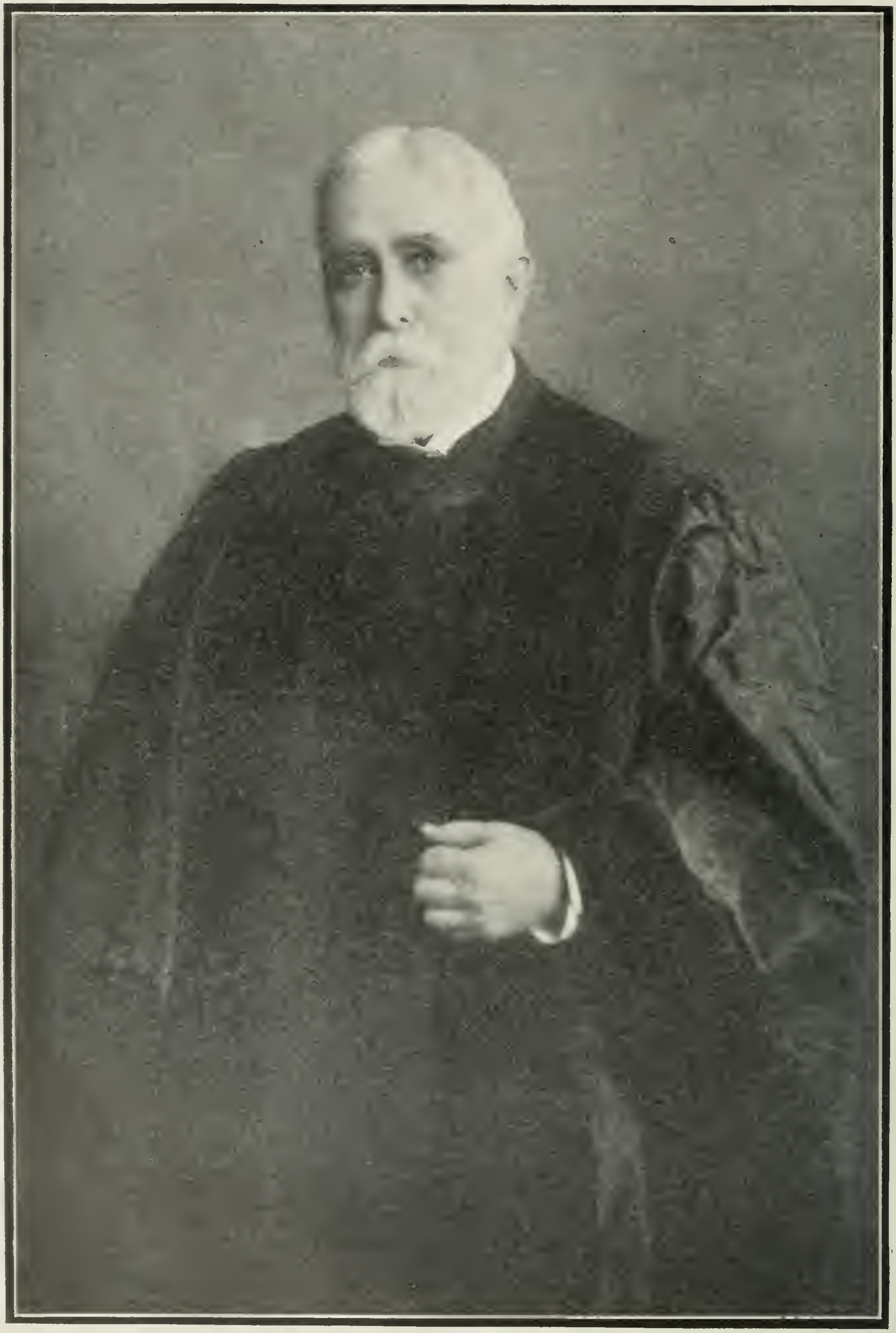
QUERY 5880.—"Physiologic Anemia." S. B., Texas, has come across the expression of "using glonoin to physiologic anemia," and doubts whether he fully understands the meaning of the term.

There may be some misunderstanding about this; if, however, the phrase quoted has been used, then we, personally, can not approve of it. True, glonoin produces an almost instant and profound fall in vascular pressure, due to dilatation of the arterioles and veins of the surface of the body, and, hence, there is, temporarily, a comparatively bloodless condition of the deeper tissues; still, this condition can hardly be described as a "physiologic anemia." If the same amount of blood is still present in the individual, there merely occurs a disturbance of the circulatory status.

Dunglison's definition of anemia—namely, bloodlessness; deficiency of blood; opposite condition of plethora or hyperemia—may be accepted in this condition. The individual is not bloodless. We have not, by the action of glonoin, produced a deficiency of blood. Still, glonoin unquestionably does affect the circulation and brings a large proportion of the blood supply to the surface, and in this manner naturally produces a temporary deficiency of blood elsewhere in the body. We cannot correctly speak of such a condition as a physiologic anemia, though without due thought such an expression might naturally enough be used.



Dr. Roberts Bartholow

One of America's greatest and best-known therapeutists. Distinguished as general practitioner, author of medical books and teacher of medicine

The American Journal of CLINICAL MEDICINE

Vol. 20 FEBRUARY, 1913 No. 2

Three Kinds of Vision

A VERY sensible and timely article appeared recently, on the editorial page of a Chicago newspaper, about an aged lady who was wondering as to whether she was living among a specially angelic group of men and women, inasmuch as she failed to find in any of them the evidences of decadence and degeneration about which she read and heard at every turn; indeed, she found the young people of today far ahead of their grandfathers and grandmothers in physical, mental, and moral qualities.

The trouble with the present age and generation is that it has the faults of its virtues; and one of these faults, which is one of its virtues run to seed, is a tendency to too close—morbidly close—investigation of everything and everybody. Not only that, but it has a tendency constantly to contemplate the abnormal.

In medicine the present is the age of pathology. Every medical scientist of any note keeps his eye glued to a microscope, watching the growth and antics of disease-producing germs, or observing the development of toxin-cultures, or scrutinizing maybe the cell structure of cancer or other similar object, and making minutely detailed reports of these morbid processes to an open-mouthed scientific world. All of which, of course, is a highly useful turn for medical science to take and has resulted in manifold wonderful life-saving discoveries.

On the other hand, however, this attitude inevitably has had the effect of making everybody—including the doctor himself—feel as though we were walking all the time in a veritable ambush of microbes, through which any man was exceedingly fortunate to pass with his life; that cancers, tumors, and the like were the rule rather than the exception, and everybody was their natural prey, and escape from them only a rare accident. In other words, pathology—the science of disease, of the abnormal—is such a dominant feature in present-day medicine that we have almost come to regard the diseased condition as the normal, typical state of affairs.

Precisely the same is true about all phases of our modern life. It is the age of pathology and the microscope. Everybody is putting specimens of morbid growths under the magnifying lens and calling upon us to examine and verify them. It is a comparatively new experience to be able to study these things at such close range and in such enlarged proportions; that prompts this mental attitude; and, so, everybody is peeping through objectives.

The novelist of the period picks out some excrescence on the body social or on the individual life and makes a "slide" of it, and then employs all the graphic tricks of language at his command to make his readers see the morbid details as vividly as if they were actually looking through his microscope. The artist, with his camera or his brush, catches all the freak shapes that flit across his field of vision and throws them on the canvas with a high-power magic lantern, so that every unnatural streak may stand out in bold relief. And thus down the whole line of human experience.

Everybody is inviting us to look through his microscope at some wart or carbuncle of which he has made a mounting, and to pay for the privilege of peeping, until one is reminded of the schoolboy's barter proposition to his mate, "Give me a bite of your apple, and I'll let you see my sore toe."

So the whole civilized world, under the tutelage of its science and literature and art (or perhaps they are but responding to the morbid demand of the civilized world) has its collective eye to the sight-glass of a high-power, oil-immersion microscope, under which are displayed, not the normal, natural things of life, but rather the abnormal, the disease-products of existence; and it is discussing them in all their morbid detail. And—partly because the showmen are really confused about the matter themselves, partly because the morbid curiosity of the gazers leads them to excesses—those who speak and write and portray them make us believe that these monstrosities and freaks are the normal, the universal things of human life.

I am not suggesting, however, that our speakers, writers, and artists are wilful or deliberate quacks, who exhibit these nauseating excresences and humors for the express purpose of making people think that they are the victims of them. No, they are just following out the tendency of the times, which, as I said at the outset, is well represented in the fact that pathology is the dominant branch of medical science just now. In truth, it is the dominant phase of all our thought and vision just now.

It may well be said that there are three kinds of mental vision, as there are of physical. First there is ordinary, naked-eye vision, by which we see the everyday visible things all around us. This kind of vision was exercised by the great portrayers of everyday life—the Shakespeares, the Fieldings, the Dickenses, and the Hogarths. These men had keen eyes to see and artful pens and brushes to describe what anyone might see as he passed along the streets and highways, but most of us do not. These men opened our naked eyes.

Then there is the telescopic vision, which enables us to take a sweeping comprehensive view of the whole of life in its vastnesses and in its relations to other spheres, just as the astronomer is able, by means of his lens, to sweep the skies and get a perspective of all the heavenly bodies. This is the kind of vision possessed by the loftier among the poets and artists, by the Miltons and Shelleys and Rembrandts and Turners and Brownings; and through them it is given to us. Men and women thus gifted allow us to look through their telescopes. This sort of vision is a very fine thing if it is not indulged in too much. But continual gazing through a telescope, which at first helps a sense of proportion, at length destroys it, and makes a man dreamy, unpractical, inclined to despise the things of earth.

And, lastly, there is microscopic vision, by which we are able to observe a whole universe in a mere point of space, be it a droplet or water or the tiniest speck of dust. Such vision is that of the portrayers of motives and idiosyncrasies of the human soul, as displayed by our Ibsens and Dostoyefskys and Poes and Hawthornes. And this last kind of vision, which, I believe, is perhaps the most useful of all and has brought about the most practical advances in the art and science of living, yet is also the most dangerous in its influence upon men's point of view, especially when it is used to magnify the abnormal and pathologic. For if we keep our eyes too long and constantly at the peephole, looking at disease-bugs and cancer-cells, by and by we will come to think that all the world is germ-infected and cancer-riddled.

And that, I believe, is why, when we read the books and see the portrayals of today, we get the impression that men and women are decadent and degenerate; yet, when we meet these same men and women in everyday life, not studying them with our magnifying glass, we really find them quite decent, yes, and even wholesome.

The situation that has not its Duty, its Ideal, was never yet occupied by man. Yes, here, in this poor, miserable, hampered, despicable Actual, wherein even now thou standest, here or nowhere is this Ideal. Work it out therefrom, and, working, believe, live, be free!—Carlyle.

"LITHOGRAPHIC" PRESCRIPTIONS: WHY NOT?

We learn that at a meeting of a Committee of the House of Commons the distinguished chairman said he had heard about many eminent medical men having their prescriptions lithographed. The learned *Lancet* professed to be mortified and astounded that an intelligent layman should make such an "absurd" remark, "showing the fathomless depth of his ignorance concerning medical men."

But why shouldn't the physicians have his prescriptions "lithographed" if he wants to? I know a good doctor, enjoying the largest practice in his community, who for every case of indigestion, no matter what the cause, prescribes a mixture of pepsin, capsicum, and nux vomica. Think what a lot of trouble it would save him if he could have this prescription nicely printed so he could rip off a sheet and hand it to every applicant suffering from gastric distress.

There are hundreds of physicians, yes, thousands of them, who have favorite prescriptions from which they do not vary from month to month and year to year so much as the dotting of an "i" or the crossing of a "t." Let some ingenious person who is fond of figures tell us how much unnecessary mental exertion and muscular effort might be saved if these favorites were nicely printed, or "lithographed" if you please, and "padded" in convenient books handy for the doctor's pocket.

Then there are the hospitals and dispensaries most of which have printed formula books for ready-made mixtures, which are put up by the gallon or hogshead, to be dispensed as "number 5" or "number 54" in the quickly diagnosed cases of patients seeking the ministrations of the members of its staff.

Why not lithograph these prescriptions? The doctor knows them by heart anyhow, and so does the drug-dispenser.

To be perfectly honest with ourselves, there is not a physician in general practice who has not some favorite prescription, and usually several, which he gives repeatedly in practically identical form and dosage; and, to be equally honest, the writer can see no good reason why the physician should not use them if he wants to and *if these preparations give him good results.*

Before the doctor comes to the point where he uses these things over and over again without variation or modification he has usually "cut and tried" until his formula is just about right. At this point many good men have these combinations made up for them as tablets, pills or mixtures, and either dispense them themselves or have them carried at their pharmacist's where they can be dispensed upon their prescriptions.

All things considered this is not a bad idea. Men who have come to this point in their therapeutic work are pretty likely to know what they want and know also the results that they are going to get from the remedies given. In our Pharmacopeia and other standard works there are numerous directions for drug combinations which have done splendid service, some of them for a generation or more; and the man who would insist upon writing a prescription for every one of these, designating the various ingredients, would be considered by almost any pharmacist as just a little "wrong in the belfry."

As the readers of CLINICAL MEDICINE know, we have advocated, and do advocate, as far as possible the use of the single remedy, but we also know (since experience has taught us) that there are numerous drug combinations which are well-nigh indispensable. If I want to add to that list the fruit of my own experience, why shouldn't I?

Whenever a man or a woman shuts himself or herself to the entrance of truth on account of intellectual pride, preconceived opinions, prejudices, or for whatever reason, there is a great law which says that truth in its fulness will not come to that one from any source. And, on the other hand, when a man or a woman opens himself or herself fully to the entrance of truth from whatever source it may come, there is an equally great law which says that truth will flow in to him or to her from all sources and all quarters.—Trine.

THE ENCROACHING NURSE

From time to time we have heard sundry mutterings of discontent over the attitude being assumed by the nurse. One fair sister came to us as a feminine helper. To enhance the efficacy of our therapeutics, she added her gentle ministrations. How lovely! Unfortunately the nurse hasn't stayed put. She has grown ambitious. She has become unpleasantly enterprising.

We find the modern nurse usurping our functions, examining patients, diagnosing their maladies, applying treatments—and we more than suspect that when we have given our directions, the moment we take our departure she and the patient get their heads together and conclude to ignore our orders and do something else that the nurse advises. Worse yet, she doesn't tell, but leaves us to believe the result—whatever it be—is due to our own efforts, when in truth these were frustrated by her intervention.

Nevertheless we confined ourselves to grumbling and let her go on, knowing that very soon she would be carried off by an attack of matrimony and her competition become a thing of the past. For has not the wise statistician assured us that the nurse is the most marrying of females and that her average play-time before being entangled in the matrimonial noose is only three years?

But now she has taken the last step, laid the ultimate straw upon our pack. If there remained one little fragment of our ancient privileges to which we doctors cling, it was the right to indite testimonials for the manufacturing chemists. Even that she has appropriated! We have before us a neat circular on which a head nurse details some seven cases treated by her.

Without the physician's corroboration!

Why, in very truth—but just listen for yourself:

"Solutions from physicians did not seem to help very much. I have been using——— for the last week. The patient has improved" —and more to that effect. "He has been to almost every hospital in P., and physicians gave him up as a hopeless case. I have been using ——— . I treat him once or twice a week, and he is now able to walk. . . . "The physician who treated him did not seem to help him very much. I gave him ———, which was used with splendid results."

There you have the whole story, the confession badly made. She treats patients who are under the physician's care at the time, and writes testimonials of the secret proprietary preparation she has substituted for the remedies selected by the doctor. The Philadelphia Nurses' Society had better get its head nurse muzzled, or the County Society will get busy.

When a certain now famous statue was all but finished, one midnight a sudden frost fell upon the city. The sculptor (who was then a poor man) lay awake in the fireless room and thought of the still moist clay, and how the water would freeze in the pores and destroy in an hour the dream of his life. So the old man rose from his bed and heaped the bed-clothes reverently around his work. In the morning, when the neighbors entered the room, the sculptor was dead. But the statue lived. Who of us will give himself to his work to that extent?

OUTDOOR SCHOOLS FOR TUBERCULOUS CHILDREN

Many countries are establishing open-air schools for the tuberculous. Examining the children of tuberculous persons, Poli found that thirty-six out of thirty-seven gave positive skin reactions. All these appeared perfectly healthy, and all developed admirably after a sojourn of some weeks in the open-air school. Randi made similar observations on a great number of children declared to be pretuberculous but who really were tuberculous. Eighty percent of these delicate children, placed in the open-air schools, were transformed after a sojourn of a only a few weeks in this new environment.

Usually the child's weight increases, its thoracic cage develops, its general condition improves. Certain morbid lesions, such as the adenitis and troubles of respiration and circulation, are amended or disappear. In Paris there is but one such school, but here, Parmentier has determined the powerful action of the method upon more than two thousand children.

Here we mark the next great advance in the march of a beneficent paternalism—the institution of separate and open-air schools for the tuberculous. Thanks to the development of tuberculin tests, we now have the means of surely and safely detecting the presence of tuberculous disease in the child. We know well the perils to the other children coming from the presence of these unfortunates among their classes. Now that the experiment has been tried and we find that by the institution of these open-air schools the health of tuberculous children is notably improved, the conclusion follows almost mathematically—we must have these schools, not here and there as exceptions, but in every center of population.

Is this feasible?

Such arrangement does not increase the total number of pupils, so that there need be but few additions to the pay-roll of teachers. In the warmer seasons there need be no extra expense for quarters, except during wet or stormy days, when some protection is required. Perhaps the Norwegian porch-system devised for the treatment of the tuberculous would prove applicable. Let the present schoolhouses be surrounded by wide porches, where some protection against the weather could be supplied by awnings and screens and some means of warming added as the weather grows colder. In all but the coldest times this would prove sufficient—and during the worst of the winter an ideal system would send these subjects to the warmer Southland. Or, their vacation might be placed in the winter, and the schooling extended into the summer, to secure the full term.

We are just beginning to realize the advantages that may be derived from the participation of our profession in the management of the public schools. The association of mental dulness with hookworms or with adenoids, the early detection and segregation of pupils affected with various infectious maladies, the lessons in sanitation given by visiting physicians and nurses, the prevention of smallpox by vaccination, and many other benefits are derivable from this development.

Possibly the lessons thus practically taught in hygiene and preventive medicine may prove in after life not the least valuable of the student's school acquisitions.

What would all these benefits amount to as compared with those derivable from the separate outdoor schools for the tuberculous?

What an opportunity to the man or woman who desires to be of use to the community, by stepping in and urging this reform with the energy that would make it a success.

Children are susceptible to the malefic influences of bad air far more than are adults. The ventilation of schoolhouses is nominal—never perfect save in theory. The worse objection to the substitiution of municipal schools for home teaching is the transmission of contagious disease among the children. None of the contagions is so dangerous or so prevalent as tuberculosis. Even for healthy children a marked improvement in scholarship results when the classes desert the schoolhouse and assemble in the open air.

The obvious difficulty lies in the cost—there must be more room for schoolhouses spread over more space by the addition of the sheds or porches. But how much does a tuberculous patient cost the community? How much is it worth to prevent the spread of this malady through the schools?

> Are you in earnest? Seize this very minute;
> What you can do, or dream you can—begin it.
> Boldness has genius, power and magic in it.
> Only engage, and then the mind grows heated;
> Begin, and then the work will be completed.
> —Goethe.

SERUM VS. DRUG THERAPY?

I have purposely written the title of this little preachment in the way I have, because it represents the popular angle of view. There seems to be a tacit, unwritten understanding among medical men, no less than among the public, that there are two distinct modes of therapy, one represented by the serums, the other by drugs, and that these two are, if not antagonistic, at least diametrically different in their *modus operandi.* So marked is this sentiment that in its extremest manifestation we find men ranging themselves into two camps: one, advocating the serum treatment of every disease in which a serum treatment has been elaborated, to the exclusion of all drugs, and frankly declaring that they only employ drugs in other conditions as a temporary makeshift only, pending the universal application of the serum method, which they confidently assert will come; the other, persistently clinging to drug therapy and that alone in face of the march of the serums, and just as confidently predicting the passing of serum therapy as an evanescent fad.

To be sure, the number of such extremists is nowadays very small. The great majority of practitioners concede the value of both modes of therapy, and avail themselves of each in its particular field of usefulness. A great many even go so far as to recognize that both may be of value in the same diseases, and so they rely on neither by itself, but give the patient the benefit of the two together. But the most that is appreciated is that the two modes may be *synergistic.* It does not seem to occur to anybody—at least I have not yet seen it suggested—that their *modus operandi* may be *identical,* at least in many respects and in many instances.

Yet the truth is, that under the modern conception of drug therapy precisely the same fundamental therapeutic principle underlies the remedial action of drugs as underlies the action of serums. Indeed, under the still broader conception of therapeutics as a whole which prevails today, there can be no other therapeutic principle, whether it pertain to a drug, or a serum, or a physical mode, or a psychic suggestion. If any one of these measures is to be curative, it can be so only in virtue of its power to call forth the offensive and defensive resources of the body itself against the morbum of the disease.

The serum treatment has its field of usefulness in the infectious diseases; and, so far as at present discernible, there alone. In this field, no doubt, it will growingly continue to be the chief reliance, as the calling out of troops for defense against an invasion—although, even so, we do well not to lose sight of the incidental conditions which attend the calling out of troops, their mobilization, their distribution, and so on. But there are many diseases whose morbum does not consist in the invasion of the system by microorganisms, just as there are disasters to a country other than foreign invasions, in which the calling out of troops is beside the mark; and in these diseases the same principle of body-defense must be applied in other forms. Against them, too, the body has its own appointed agencies of offense and defense, whose proper stimulation is the objective of rational therapeutics; but in these cases the agencies are not the side-chains of Ehrlich or the opsonins of Wright, and these are therefore not to be called into action by serums or vaccines. They are physiologic processes, to be hastened or retarded by the intelligent administration of drugs.

As to the infectious diseases, I have already hinted that there are other things to be done in the event of foreign invasion than to call out the troops. To speak only of the simplest of these other requirements, there is the rapid and effective transportation of the troops to the places where they are needed. So, in the infectious diseases, the equalization of circulation, with such drugs as veratrine, atropine, and aconitine, and the toning up of the vessels to favor migration, with digitalin and the like, are just as essential a part of body defense, albeit an accessory part, as the serums themselves. And in many other ways that will suggest themselves to the thoughtful physician, drug therapy, (i. e. definite, well-controlled drug therapy, such as one gets with the active principles) may be made a powerful and invaluable agent of cooperation with serum therapy. I am not at all sure but that more than this may be demonstrated for drug therapy in bacterial infections; that it may be shown to exert a direct influence, not merely synergistic but identical with that of the serums. Here is a side of the subject that deserves looking into and working out. It is a good theme for some able therapeutist's pen.

The love of Nature is a great gift, and if it is frozen or crushed out, the character can hardly fail to suffer from the loss. I will not, indeed, say that a person who does not love Nature is necessarily bad; or that one who does is necessarily good; but it is to most minds a great help. Many enter the Temple through the gate called Beautiful.—Lubbock.

THE QUESTION OF ADVERTISING IN MEDICINE

One of the earliest attempts of mankind to establish a modus vivendi with fellow man, as the world became sufficiently peopled for individual wants to clash, was the decalog. As population thickened conditions became more and more complicated, until now even with such a multiplicity of laws that even the most skilled of their exponents are unable to agree on what they provide, the industry of legislators is taxed to frame enough new ones to keep pace with the need.

Moreover, the fundamental principles of right on which all law is based, are complicated by considerations of religion and of sentiment; of custom, expediency, and social ethics.

A thing may be legally allowable but forbidden by one or other of these. The Jew has a legal right to eat meat of the hog, but his religion forbids it, as the Seventh Day Adventist is restrained from work on Saturday, the Quaker from wearing bright-colored clothing. Sentiment forbids the intermarriage of races even when law is silent. Laws stand on the books whose enforcement is deemed inexpedient, and rights are allowed to lie dormant for similar reasons.

In the medical profession we have an additional set of restrictions, by which we are barred from doing certain things that are perfectly legal, perfectly moral, not contravening any religious tenet or the common sentiment of the public. Advertising comes in this category. More than this, every successful doctor advertises, and nobody more than the illustrious, the great surgeon. But the advertising must be done under certain restrictions, to be "ethical." The problem is how best to advertise without overstepping those limits that the profession would "stand for," and the more illustrious the individual the closer he comes to the limit. And it must be confessed that some of our great men are very daring.

The advertising of supplies for the physician is another matter; and yet even here there is a disposition to draw the lines closer. Exaggeration has been the rule; but the advertiser has said that without striking and extravagant claims the readers' attention could not be arrested; and that no real harm was done because such exaggeration was expected and discounted, just as an old country doctor told us he invariably gave twice the doses suggested to allow for adulteration.

Advertising is a necessity. How is one to make his commodity known to those who need it, when he has something good, except by telling them about it? Here is a man who has come upon something he believes to be useful. He is willing to invest his money in its production, and this demands sales. These require that the prospective buyers should know that such a thing exists, and what are its merits. If the man has such confidence in the merits of his article that he is willing to invest in its manufacture and marketing, he opens his purse and advertises. If the article goes into the hands of the men who will use it, and are therefore best qualified to judge of its true value, the result must depend strictly upon its merits. If the owner has been mistaken, he loses his money and, worse yet, his reputation. The most valuable asset of any mercantile house is its reputation for honesty and good judgment. The house that never yet advocated an article that did not prove as good as the owner asserted, whose prices for quality were not greater than the market, is sure of results when it introduces a new thing. The question of price is important. The plant for manufacturing any goods is a fixed expense; the office and distributing force costs so much; the interest on money invested amounts to so much; and the profits depend on the quantities sold and paid for. If few articles are sold the individual cost must be high; if many are taken the cost is decreased as the sales increase. It is like building a skyscraper—the ground and the roof cost so much, and each additional story brings down the cost of all relatively, and adds to the earning power.

Writing advertisements is an art, and the man who is proficient finds plenty to do and good pay. Yet it is a simple matter if one obeys the indications. The ad must be seen and read; it must be easy to understand; it must be credible; it must speak of what people want. The writer must believe in what he presents to others. He must comprehend in what particulars it excels other goods, and be able to present these advantages in few but easily understood words. He must consider the audience he wants to reach, how best to reach them, and how best to present his subject to that particular audience. Above all he must avoid that half knowledge that is worse than none—remember the politician who found the controlling vote in his district lay with the Lithuanians, ascertained that they came from Russia, flooded the district with his literature in Russian, and after the storm passed sat down to find out why he had been snowed under.

There has, unfortunately, of late been a disposition to distrust and condemn anybody and everybody who has something to sell. It is assumed that he cannot, under such circumstances, possibly tell the truth. And especially that goods which are advertised must be worthless. Such an idea is, of course, very foolish; but it has undoubtedly arisen out of the shocking abuse of the advertising field which has reached such outrageous proportions during the past few years, and for which, it must be admitted, the public itself has been partly to blame on account of its indifferent, and even jocosely approving, attitude toward fraudulent exploitations of all kinds. The Rufus Wallingfords have occupied quite a respectable place in society, and we have rendered them a sort of admiration for their cleverness.

Happily, however, this state of affairs is now rapidly passing. In this, as in other social matters, the public conscience is being awakened, and there is a general movement toward demanding the square deal in advertising, as in everything else; which will not only add immensely to the efficiency of advertising itself, but will restore the advertiser to his proper place of dignity and public confidence. Indeed, this movement has actually taken concrete, focal shape in the very midst of the advertisers themselves. The Associated Advertising Clubs of America, at their recent convention in Dallas, appointed a committee for the express task of wiping out the fraudulent, dishonest and indecent element in advertising; for which purpose, we understand, money has already been subscribed, and the committee is prepared to carry out a campaign of publicity, education, and, where necessary, prosecution, to bring about conditions of honesty and decency in the advertising field. A most commendable movement, to which every right-thinking man and every reputable advertising medium will certainly lend his and its moral and practical support. The advertising interests of the country, as represented in this Association, cannot be too highly congratulated upon this effort to purge themselves of the enormities that are foisted upon the public in their name.

Our own standpoint has always been that of the seeker for knowledge. If the new thing advertised is better than what we have had, we want the new thing. Our means of coping with disease is not so perfect that we can afford to neglect the least opportunity of improving it. But men exhibit various attitudes in dealing with novelties. Some approach the matter with a firm determination to find the thing bad—and bad it proves to them. Some see only good in it, and welcome every suggestion because it is new. No claims are too extravagant to win their enthusiastic approval before they have given it any trial at all. The men who approach a matter in the true judicial spirit, with neither favor nor prejudice, seeking only to know the truth and its limitations, are not common in medicine.

Did you ever hear of a man who had striven all his life, faithfully and singly, toward an object, and in no measure attained it? If a man constantly aspires, is he not elevated? Did ever a man try heroism, magnanimity, truth, sincerity, and find that there was no advantage in them—that it was a vain endeavor?—Thoreau.

ARSENIC AND DIGITALIS IN PULMONARY TUBERCULOSIS

Some years ago, when the foremost leaders of medical thought, and especially the most prominent internists, were fully imbued with the uselessness of drugs for the treatment of disease and often remained satisfied with a strictly scientific study of the causes, pathology, and diagnosis of diseases, it required a good deal of courage to maintain a therapeutic enthusiasm and positivism. Of course, the mere general practitioner could dare to believe in drugs and could continue to prescribe them and observe their action upon the diseased organism, incidentally leading his patients to recovery in a very fair proportion of cases; but men who aspired to stand among the foremost could hardly admit being so unfashionable, so "unscientific," as to waste time with drugs or to prescribe them for any other purposes than as a matter of form.

It is refreshing to observe how some men have maintained their faith in the beneficial powers of remedial agents in spite of the desided opposition in high places; how they were not afraid to give expression to the faith that was within them, and, more still, how they could dare to prove the justice of their position by showing results from drug treatment, which had perforce to be attributed to the treatment administered.

One man who stands among the foremost physicians in the country (we prefer not to designate him by any less embracing term than the general one of "physician") and whom we are proud to own as an American physician has for more than fifty years maintained and asserted the power for good that is inherent in the proper drugs properly administered in indicated conditions; and in all these years he has observed a therapeutic optimism and enthusiasm that is an inspiration to all who are privileged to hear his lectures or to read his writings—we refer, of course, to Dr. Abraham Jacobi. All through his numerous contributions to medical literature the necessity and advisability of deliberate and well-considered drug treatment is emphasized, and his results have time and again shown the justice of his position.

Quite recently Dr. Jacobi discussed, before the Medical Society of the State of New York, the value of arsenic and digitalis in the treatment of pulmonary tuberculosis. It was not the first time that he has done so, it will, let us hope, not be the last time. This paper is well worth studying. It was published in *The Albany Medical Annals* for July, and in *The New York State Journal of Medicine* for the same month.

Dr. Jacobi says that, if there be any medicine which besides quinine and mercury has been called a specific in many diseases, it is arsenic. It is known to act as a poison and strong caustic. It prevents putrefaction, although it is not a powerful antiseptic. It acts very favorably in malaria, chronic skin diseases, and maladies of the nervous system, and has considerable and sometimes unexpected effects in the treatment of lymphoma, even of lymphosarcoma. In small and frequent doses, arsenic improves connective-tissue growth, it thickens the connective tissue of the stomach, and increases periosteal and osteal deposits. The increase of cell growth under the action of arsenic points to the mode in which it is effective.

Hans Buchner, years ago, advocated the arsenic treatment of pulmonary phthisis and believed that phthisis could be prevented by arsenic—the remedy stimulating and gently over-nourishing the cells and thereby increasing the power by which the organism resists the invasion of the bacillary enemy. Under the permanent use of arsenic, infiltrations diminish, elastic fibers disappear from the expectorations, the strength improves, and the body-weight increases.

These beneficial results do not occur only in the incipient stages of phthisis but also become manifest in later stages.

Nevertheless, there are limitations, and Jacobi says that he has almost always been disappointed in the action which Buchner claims upon hectic fever. In fact, it has become his rule not to prescribe arsenic at all while fever is very high, but to return to it as soon as the temperature has a tendency to become more normal. By acting upon this plan, he very often had the satisfaction of improving the condition of very doubtful and far-advanced cases.

The dose ought not to be large. Nausea, colic, diarrhea, edema of the eyelids are temporary contraindications to the continuation of the use of arsenic. A dosage of 1-15, 1-10, and up to 1-6 of a grain of arsenous acid daily suffices for an adult, if the drug is to be continued for a protracted period. In order to render it less liable to give rise to disagreeable symptoms, a little opium may be administered in conjunction. In most cases of incipient phthisis, this combination is agreeable and useful. In persons showing diarrhea at an early period, this joint administration is particularly a happy one.

Arsenic will produce a rapid proliferation of cell-membrane and interstitial tissue, which will fortify the general tissue and encapsulate the tubercle bacillus; but, as its action is to be persistent, small doses must be given continuously.

The effect of arsenic upon growth in general is marked. Adipose tissue, muscle, bone, periosteum, and connective tissue will increase; blood and hemoglobin probably are affected in the same way; nitrogen is retained in larger quantities, albumin increasing in the whole organism.

Arsenic has no therapeutic effect unless combined with oxygen (in contrast to phosphorus, which has its effect in the bone as a free, uncombined element), and, in order to prevent its effect upon the gastric glandules which have been known to become atrophic during its use, some hydrochloric acid should be given regularly, or else black pepper, in the shape of Asiatic pills, be associated with the arsenic, for its acid-producing action.

Dr. Jacobi quotes a communication by Robert Brunow, who had made animal-experiments on the effect of arsenic in combination with guaiacol, in which the rabbits that received the drug resisted virulent tuberculous infection and even gained in weight, while the untreated controls perished of pulmonary tuberculosis seven weeks after inoculation.

The influence of digitalis is exerted in pulmonary tuberculosis the same as in other conditions. It contracts the heart and the arteries, increases blood pressure and nourishes the tissues, including the heart itself.

Digitalis should be avoided in acute inflammation only or in those myocardial changes which bear no strain. Cumulative action need not be feared if given continuously for a long period of time, provided the doses are small.

Digitalis will be found efficient in chronic anemia and chlorosis, for its tonic effect, in connection with arsenic or iron, when the circulation requires stimulation.

Dr. Jacobi concludes his paper by saying that it is a grave mistake to believe that a patient having tuberculosis should be directed to rely on air, rest, and food, to the exclusion of drugs. He maintains that socalled symptomatic drugs, such as camphor, opiates, and so on, are helpful and indispensable; and he further asserts that arsenic should be given for months and even years. He never treats chronic pulmonary tuberculosis without it, or seldom gives it without a small dose of digitalis, and never without a guaiacol salt.

THE TREATMENT OF INFLUENZA

The advent of real, old-fashioned winter is accompanied by a recrudescence of the influenza that has lingered persistently in our cities for many years. It has not been so many seasons since a distinguished therapeutist, reviewing the methods successively popularized—Raspail's camphor lotion, quinine, acetanilid, ammonia, *et al.*—came to the mortifying conclusion that as yet we had developed nothing that controlled or even materially influenced for good the progress of this malady. "Treatment" served to amuse the patient and fool his doctor. The essential feature of the clinical picture, the overpowering weakness, was not even attacked by any of the therapeutic agents suggested. All these were of the "try it" order, with scarcely the ghost of a reason for their employment advanced.

One very curious fact was developed, that this weakness extended to the patient's reaction against remedies; and even the tonics that seemed especially indicated could not be taken in large doses. Half a milligram of any salt of strychnine is a small adult dose, but the victim of grip was apt to display disquieting tendencies toward collapse if this dose was exceeded, or repeated within an hour. This has led many to sustitute the weaker alkaloid brucine; and to administer it in similar doses, repeated every half hour until the pulse indicated the maximum benefit derivable therefrom.

Another remedy that has been warmly recommended is the hydroferrocyanide of quinine. Lately I gave it a trial because the combination of two tonics seemed apt. Having a vial of granules, each a milligram, I gave these, one every hour, and had decidedly good results. Replenishing my stock with granules of a centigram each, my next case was a failure. No special benefit followed and the patient seemed irritated or disquieted by the drug.

Now here comes one of those unexpected experiences that mark the history of influenza. Experimenting with calx iodata, I gave it to my influenza patients in doses of two centigrams every fifteen minutes. The effect seemed more decidedly remedial than that of any remedy or combination I had previously tried. Later, Dr. Abbott, who, being so constituted by nature, believes in using the sledgehammer, if necessary, to knock out his pathologic enemies, urged the use of calx iodata in daily dosage of eight to sixteen grains! I tried this, fully expecting to find these large doses unsuitable. But they were borne without any difficulty and the effect on the malady was quite decided—far better than that of the small doses.

Influenza reminds me of an experienced friend's rule for working the stock market—make up your mind the way prices are going, and place your money the other way.

All the same, there is a dynamic power behind the minute dose very rapidly repeated that is only appreciated by those who have rendered themselves familiar with the method.

You are disappointed? Do remember, if you lose heart about your work, that none of it is lost. That the good of every good deed remains, and breeds, and works on forever; and that all that fails and is lost is the outside shell of the thing, which perhaps might have been better done; but better or worse has nothing to do with the real inner good which you have done.
—Kingsley.

THE ENGLISH STRUGGLE

Europe watches with interest the battle between Lloyd George and the British medical profession. The new law provides for all employees earning less than $800 per annum, on payment of a small weekly amount, free medical attendance in case of illness or accident, and an allowance, until cured, of $1.25 to $2.50 per week.

But to care for the sick it is necessary to have doctors. On this point Lloyd George is learning something. He could not compel the English physicians to give their services gratuitously to the wards of the State, and he entered into negotiations with the British Medical Association, proffering the physicians the sum of $1.12½ per annum for each of the assured persons. About seven-eighths of the members refused the offer. The annual stipend was raised to $2.12½, but when submitted to vote this was rejected by a majority of 182 to 21. The objection was not to the recompense but to the measures of control demanded by the Government. The physicians were to be submitted to the surveillance of the municipal councils, which were to make detailed reports to the ministry of the manner in which the duties were fulfilled. This they believed to be incompatible with the free exercise of a liberal profession.

The result seems to be a split in the Association, for the ministry is going ahead and making terms with those who are willing to accept them. This is being done in the cities especially, while the conservatism of the country doctor holds him aloof from the revolutionary innovation. Physicians are contracting directly with the assured class to supply them medical attention, without drugs, at the rate of $2.12½ per annum.

All of which seems decidedly amusing to the opposition press, which propounds this query: How can an end be put to Lloyd George's nightmare?

Nevertheless, this matter is going to grow, and the method will prevail. Some time ago this journal suggested a mode of changing the relations of the profession with the public, by which the doctor should receive a regular salary from his patients and devote his energies to the prevention of disease. Some features of the proposed plan have been taken up by the health officers of Indiana, who purpose to make every doctor an officer of health, each for his own limited district. The matter is under discussion, and in some form will prevail, because it removes the difficulties of the profession, especially poverty, and is for the benefit of physician, patient and public. But nobody familiar with the innate conservatism of the medical body expects to see any such revolution accomplished very soon or without long and acrimonious discussion.

Lloyd George will carry his point, because it is in accord with modern conditions and needs. More and more of the doctors will capitulate and come to terms with the Government, until the remainder will be forced, in self-defense, to accede.

I shall arrive! What time, what circuit first,
I ask not. But, unless God sends his hail
Or blinding fireballs, sleet or stifling snow,
In good time, His good time, I shall arrive.
He guides me and the bird. In His good time.
—Browning.

AMEBIC DYSENTERY AND EMETINE

The treatment of amebic dysentery by ipecacuanha and its alkaloids has received fresh impetus from the work of Leonard Rogers in Calcutta. In *The Lancet* for October 19 last, there is another contribution from this distinguished clinician.

In the examination of the stools of patients with amebic dysentery he adds one drop of a 1-percent solution of methylene-blue to a piece of dysenteric mucus, which stains the pus and epithelium at once, the amebæ resisting the stain for a time and retaining their motility. Without delay he examines with a lower power (1-2-inch), using a 1-6 lens to verify the find. The protozoons will be absent if full doses of ipecacuanha have been given previously.

In treatment, Rogers employs emetine hydrochloride, giving 1-2 grain hypodermically once or twice a day. This rapidly relieves the pain and tenderness and stops the fever. If suppuration has not begun, the leukocytosis also ceases and the patient enters upon canvalescence. Abscess of the liver is denoted by continuing leukocytosis. The pus should then be aspirated and a grain of emetine thrown into the cavity. Injections of emetine may be requisite for some days to kill any amebæ remaining; or, if the abscess is large, aspiration may be repeated.

A comparison of results in cases where ipecacuanha was given and of others in which emetine was employed showed a decided superiority of the latter in percentage of cures, lower mortality and shorter time required for effecting the cure. The mortality in the former was 34.6 percent, while under emetine there were no deaths among nonmoribund patients. The average stay in hospital for the ipecac cases was 16.4 days, for the emetine cases, 7.2 days. The stools became free from blood and mucus in 11.4 and in 2.35 days, respectively. The average dose required of ipecac was 406 grains, of emetine, 2 grains, corresponding to 180 grains of ipecac.

For adults Rogers now employs emetine hydrochloride in doses of 2-3 grain twice a day for two days, then once for a day or two more. When the hypodermic method is inconvenient he gives 1-3 grain by mouth, which produces no material sickness, while giving more favorable results than when ipecac itself is taken by the mouth. The action is slower and far less effective, though, than when the hypodermic method is used.

In the only two instances in which apparent relapses occurred, examination showed the complete absence of amebæ; but in one the Shiga bacilli proved the cause of death. There was, therefore, a permenent cure in all the patients treated.

The older readers of CLINICAL MEDICINE will recall the frequent recommendations in these columns to use emetine in dysentery. To them, the treatment presents no novelty, but its adoption by distinguished clinicians like Rogers is a significant forward step.

There is only one cure for the evils which newly acquired freedom produces, and that is more freedom. When a prisoner first leaves his cell, he cannot bear the light of day. But the remedy is, not to remand him to his cell, but to accustom him to the rays of the sun. The blaze of truth and liberty may at first dazzle and bewilder men who have become half blind in the house of bondage. But let them gaze on, and they will soon be able to bear it.—Macaulay.

FEW DRUGS OR MANY?

Not very long ago we heard many doctors make the silly boast that they could practise medicine with a very few drugs. The acme of perfection in this class seemed to be reached by one old chap who had reduced his therapeutics to just two remedies—"salts" and opium.

Maximilian Schulman (in*The N. Y. Medical Journal*, Oct. 5, 1912) calls the bluff of these men, and he does it so effectively that we conclude he must be a reader of CLINICAL MEDICINE.

Dr. Schulman contends that there are a very few real therapeutic nihilists who actually have lost faith in therapeutics. Possibly, though, we have never met one in whom this pessimism was not attributable to ignorance or liver.

Another class comprises the men who are constitutionally antagonistic to whatever may be the belief of the man they are talking to.

His third class consists of those who seek an excuse for laziness. They know nothing and make no effort to learn.

One of these drug-nihilists once asserted that he could get along well with only six drugs. Inquiry raised his list to ten, and even classing all preparations of a given metal as one, the indispensables, upon scrutiny, grew into a lengthy catalog.

Dr. Schulman goes on to enumerate the strictly official drugs which no physician could dispense with. His first group, specifics, contains five—quinine, mercury, thyroid gland, diphtheria antitoxin, and antimeningococcus serum. We should, assuredly, add calcium sulphide against gonorrhea and pilocarpine against sthenic erysipelas.

Group B, "near"-specifics, consisted of nine drugs; namely, aspidium, santonin, salicylates, colchicum, iron, arsenic, iodides, digitalis, ergot.

Group C, respiratory, contains six drugs, viz., menthol, antimony, ammonium chloride, creosote, codliver oil, calcium lactate.

Group D, digestive, six drugs: hydrochloric acid, soda, magnesia, bismuth, capsicum, oil of turpentine.

Group E, cathartics, four drugs: croton oil, castor oil, magnesium sulphate, cascara.

Group F, emetic, one: apomorphine.

Group G, stimulants, five: ammonia, camphor, caffeine, strychnine, epinephrine.

Group H, vasodilators, three: nitrites, alcohol, chloral.

Group I, sedatives, five: antipyrin, belladonna, bromides, trional, aconitine.

Group J, opium (class by itself).

Group K, anesthetics, three: ether, chloroform, cocaine.

Group L, antiseptics, eight: boric acid, copper sulphate, iodine, hydrogen dioxide silver, alum, betanaphthol, hexamethylenamine.

Group M, skin remedies, three: zinc, tar, chrysarobin.

Thus we see listed fifty-nine remedies, and, yet, the writer has not mentioned calomel, ipecac, rhubarb, colocynth, or any diuretic, diaphoretic or vasoconstrictor. Indeed, so many of our most valued remedies are omitted that the list might easily be doubled.

For our part, we stand at the opposite pole; we require many remedies. Two carrying cases, each containing 100 vials, are insufficient to hold all of our remedies, and, yet, there are only six compounds in the list. Each year sees additions to our stock as we learn to make nicer discrimination between allied remedies and to fit them more exactly to the varying conditions presented by patients.

Thus, while we rely upon strychnine as a general tonic, inciter of the vital functions and as strengthening the central control, we prefer the closely allied brucine, because of its local anesthetic property in case the stomach is irritable. In old paralytics also we have learned to look for more benefit from thebaine after strychnine has exhausted its usefulness. Further study will surely disclose uses for morphine, gelseminine, calabarine, and other members of the strychnine group. So of every other group of drugs.

The therapeutist of the future will go on multiplying his resources as he learns to differentiate more accurately the pathologic conditions and the powers of his drugs.

Meanwhile Dr. Schulman has done good service in demonstrating the falsity of the assertion in question so frequently made.

MORPHINOMANIA IN FRANCE

France is becoming aroused over the necessity of coping with the spread of the habitual use of opiates. *Le Matin* urges the need of more stringent legislative action controlling the sale of the habit drugs. On the front page of its issue of December 27 this periodical displays a cut representing a victim, which displays his emaciation and the lesions resulting from numerous hypodermic punctures. The greater disastrous effects of the alkaloids taken in this way are insisted upon. While opium introduces itself insidiously by the respiratory and digestive paths, "its terrible children" penetrate by effraction, by puncture. It circulates with the blood wherever this goes. Reaching the central nervous system, it seizes upon it and overwhelms it.

Prohibitive measures to protect these unfortunates have proved a "degrading and lamentable failure." Since 1846 the sale of these poisons has been prohibited except upon the prescription of a physician, signed and dated, and such a prescription can not be refilled. But the law seems to be ignored. *Le Matin* only needs to demand its enforcement.

"Though I have the gift of prophecy, and understand all mysteries and all knowledge . . . . and have not charity, I am nothing."

IN THE SICK-ROOM

Nothing is gained and much that is very valuable is wasted by allowing ourselves to become nervous in the sick-room.

Although we may consider a person too ill to be aware of what is taking place about him, he is sometimes fully cognizant of the merest trifles and always more or less susceptible to any and all things going on. For that reason, conversation about the condition of the patient carried on in whispers or in a mysterious manner should be avoided, and an air of quiet cheerfulness always be maintained.

Nothing is so annoying as to be continually asked if we do not wish the pillows changed, the bed-clothes straightened, the blinds closed or opened, some nourishment brought, or any other small details attended to. Better, by far, to see for one's self, and do so quietly without disturbing the patient. Particularly if they are disposed to sleep, do not at once get a newspaper of the kind that has the greatest possible amount of rattle in it and seat yourself in a rocking-chair regardless of the effect it may have upon the nervous condition of your friend.

When it is time for the nourishment, the medicine, be prompt to give it, but always without talking it over too much, and if it is the bitter cup that is to be prescribed, have something agreeable to follow, and a cheery word. If it is the food or broth, have it prepared outside the sick-room and brought in quietly, and, above all, in an attractive form; bearing in mind that a little, daintily presented, will be much more acceptable and partaken of with more benefit than a larger quantity. An invalid oftentimes is better nourished by partaking of a little substance at short intervals, and the manner in which one is cared for has much to do with one's improvement.

Leading Articles

Roberts Bartholow: A Great American Therapeutist

A Sketch of His Life and a Study of His Work

By **GEORGE F. BUTLER, A. M., M. D.**, Chicago, Illinois
Professor of Therapeutics, Chicago College of Medicine and Surgery; Author of Butler's "Materia Medica and Therapeutics"

THE middle of the nineteenth century was a crucial era in many respects. It was pregnant with many great things. It has been said that "the darkest hour is just before the dawn." Early in the fifties a multitude of subjects as well as many phases of many subjects were veiled in darkness. When we look back upon those days and reflect upon the darkness that reigned, regarding things medical as well as others, we sometimes wonder, as now we stand in a greater light half a century later, that the conditions were so adverse to true progress and growth as they actually were at that recent period.

Owing to the darkness that still enslaved men, extreme narrow-mindedness in the practice of medicine prevailed among the membership of the regular school; and I may say this as a regular practitioner myself, and yet keep within the bounds of professional etiquette. The more cultured and informed a man may be—must be if he is to be a well-equipped practitioner—the more liberal he should be in his attitude toward some of the phases and practices outside of his own restricted sphere.

This is the attitude that I feel I must assume in a study of that product of medical growth and development that manifested itself first in those middle-of-the-century days just now referred to, namely, Dr. Roberts Bartholow. Cincinnati was particularly strait-laced and narrow in a medical way in those days; and here it was that young Bartholow first came into public view. This fact possibly explains why he attracted so much attention from the start—he, a man of infinite mind and broad comprehension, and yet restrained from too much dallying with liberal notions by the ethics of the school to which we all are bound. At that time Eclecticism had a considerable following in the city of Cincinnati, and a following that was more than ordinarily intelligent. Thus it was that here a regular practitioner necessarily was put on his mettle far more than if the adherents of this offshoot from regularity had been ignorant and presumptuous, as so often happens in these medical developments "on the side."

This was where Dr. Bartholow found himself upon his entrance into medical life in Cincinnati. Previous to this, in order to study nature at first hand as a young surgeon, he had joined the army and accompanied it into the far western territories. Four years of camping in the wilderness, next to the heart of nature, and studying with the enthusiasm of youth, gave him wide and valuable experience in handling fevers and gunshot wounds; while no sooner had he returned from this expedition, than the war of the Rebellion broke out, which gave him three years more of invaluable medical and surgical experience, an experience acquired in the hardest of all schools.

Bartholow Becomes a Teacher

By this time Bartholow had left the middle of the century behind, and in the winter of 1863–64 he was appointed professor of chemistry in the Ohio Medical College. It was at about this time that he first gained national reputation by his published articles on potassium bromide and on ammonium bromide. About the same time he began to see "the limitations and narrowness of medication by authority" and began to investigate the indigenous vegetable remedies such as hydrastis, using them occasionally in his practice. Nevertheless, he did not consent for a long time to associate with or consult any socalled "irregular."

Already he held some advanced views about sewerage, ventilation, cholera, and so forth, which disturbed the conservative, rather drowsy Academy of Medicine; but the cholera epidemic in Cincinnati, in 1866, showed him to be the right man in the right place and served somewhat to awaken the conservatives. By means of *The Clinic*, the medical journal he had established, he aroused the sleepy, conservative members of the profession still more, the journal affording opportunity to give utterance to his views in a trenchant way.

Dr. Bartholow's Literary Work

While engrossed for more than a score of years in his various medical duties, Doctor Bartholow was sedulously garnering material for his great work, his "Materia Medica and Therapeutics." This was published in 1876 and created a veritable sensation in the medical world, besides being the cause of his being called to a chair in Jefferson Medical College, Philadelphia, and offered a position on the staff of the Philadelphia Hospital. His next work was a volume on the practice of medicine. After the appearance of this book he joined the staff of *The Medical News*, of Philadelphia. He retired from college work in 1893, when he was made an emeritus professor. His "Treatise on the Practice of Medicine" went through many editions, and was even translated into Japanese.

Dr. Bartholow occupied many official positions, among which the following were the principal ones: professor of medical chemistry, and afterward professor of practice of medicine in the Medical College of Ohio; Fellow of the College of Physicians, of Philadelphia; honorary member of the Royal Medical Society of Edinburg, and of the Society of Practice of Medicine, Paris; professor of materia medica in the Jefferson Medical College. Mount St. Mary's College bestowed upon him the honorary degree of Doctor of Laws.

The Catholicity of Dr. Bartholow

It is not too much to claim for Doctor Bartholow that, owing to his researches and the knowledge he thus gained as well as to his steadfastness in maintaining his attitude and standing in the regular school, we of the regular school have at our command many more drugs than we otherwise should have. A man less balanced than Doctor Bartholow, after his fruitful investigations into the merits of the drugs used by the Eclectics, would have joined the latter, and thus have nullified his potentiality for good. But he had the bravery to employ those remedies and by his influence to encourage their use, with the happy result that our knowledge of drugs became richer and our means of fighting disease fuller and more comprehensive.

This is only one of the many lessons we learn from the catholicity and forethought of a mind raised far above the ordinary level. When a man thinks twice before he acts, he proves himself a real power in the world of thought. Iconoclasts are picturesque, it is true, but generally they do a world of harm. Builders are the greatest need in the world, not those who destroy. He who would destroy must first have something better with which to replace that which he annihilates.

In a review of the life of Doctor Bartholow, issued a few months ago, I observe that he is referred to as an iconoclast. Nothing could be further from the truth. The gardener who trims his vineyard is anything but an iconoclast. He does not destroy. He trims, not to destroy, but to revivify. Thus Bartholow found much to trim away in his outwork at the real beginning of his career in Cincinnati, and he used intelligence in doing it; with the result that the regular school was benefited, whereas, if he had done otherwise, he would have immolated himself on the altar of Eclecticism without any good having resulted in either direction.

His Faith in Drugs

Bartholow may be said to have had but one aim and one object in life, and that was the discovery of medical truth, and its exact scientific achievement in combating disease. His faith in drugs was unlimited. The only question was as to their value and their exact application and their limitation as well. His mental capacity was great and his belief in himself marvelous, this giving rise to the suggestion which has been made that he felt that he was to be the leader in medicine in America. And, in truth, as near as there could be such a master and leader, he was that. He was fearless, and had no mercy for a weakling either in thought or action. His powers of sarcasm were almost volcanic, as has been stated by those who had met him in argument, and he never came off second best.

Doctor Bartholow's work in Cincinnati was as an awakening, and in Philadelphia it was as a culmination. He abhorred provincialism in medicine; and wherever he practised and wherever his books have been read, the profession has been benefited thereby. The regular school may well be proud of this great man, because he made it broader and more catholic. But other schools may also join in the acclaim, for his efforts tended to dignify the general calling of medicine with the one aim of fighting disease, not of glorifying any one school at the expense of all others. The regular school was made more regular—if that were possible—while the Eclectics, for example, were honored, in a way, by having their choice remedies taken over by the regular school because of the liberal and independent course of Doctor Bartholow.

The Need for Broadness in Medicine

There is too much narrowness of mind in the world. There is no need of it. It does no good. In very fact, it does harm. He who discovers a new remedy or adopts one in vogue among those of a particular school and gives it regularity is one of the world's benefactors, and should be rated as such. Roberts Bartholow was such a physician. The world is the better, and broader, and freer, and healthier because of his life and his work—his unification and conservation of the forces of the work of medicine by which disease is baffled and health is assured. His books and his papers show his liberality of mind; and, yet, it is a liberality of which every regular physician should be proud, because it raises his profession above the poise of provincialism and gives it standing and rank as a world-science.

In all probability there is no other one thing which stamps greatness on the name of Roberts Bartholow in ineffaceable letters more strongly than his ability to do in Cincinnati during the sixties what he did do. It was in an age and in a community where to recognize an "irregular" in any way was to commit professional suicide on the part of the regular physician; and, yet, Bartholow deliberately brought into regular practice remedies which up to that time had not been recognized and he was great and strong enough to do it, and the remedies are recognized today.

That is the kind of "regular" of which the world was in sore need in those days. There are more of that kind today, thanks to the influence of Doctor Bartholow; and the regular school, of which I am proud to be a member, is today a progressive society the end and aim of which is the curing of disease and to benefit humanity. It no longer is in danger of getting stalled in a rut of narrowness from which one can escape only with great difficulty, if at all.

I do not feel like closing this brief survey without making a few extracts from a letter recently received from Prof. John Uri Lloyd, the well-known manufacturing chemist and author of much valuable medical literature, who resides in Cincinnati, the scene of Bartholow's early life and who was thrown into contact with him much in his early days.

A Letter From Professor Lloyd

"I well remember Dr. Roberts Bartholow, who as a young man began his professional career in the city of Cincinnati," writes Professor Lloyd. "He was then a struggling, unknown young physician possessed of an inordinate amount of energy and of an extraordinary degree of therapeutic independence. In those days, the lines drawn between the "regulars" and the "irregulars" was exceedingly close. It was as much as the reputation of a physician of the old school was worth to be even seen in conversation with a member of an irregular school. This was especially the case in Cincinnati, where the Homeopathists were exceedingly strong, and where was situated the headquarters of the Eclectic school.

"I need not say that the remedies employed by the regular school of that date were exceedingly limited in number. Perhaps on the fingers and thumbs of the two hands one could name all the important remedies employed for the majority of cases to which a physician might be called, these having rolled down the centuries from the days of European medieval medication. Chief among these were blue mass, calomel, opium and its salts, cinchona and its alkaloids, the cantharides plaster, tartar emetic, and the harsh cathartics, such as the compound cathartic pill and similar materials, like jalap, colocynth, and the milder cathartics, rhubarb and senna. Of course, the European drugs of a harsh description were employed more or less after the course of such as these has been instituted, or even in support thereof; conspicuous among which may be mentioned belladonna, digitalis, hyoscyamus, and other energetic remedies. Such preparations as taraxacum and gentian were favorites, but employed practically as excipients in the making of pills and in compounds, where they merely served to give zest to the mixture, and presumably exerted little influence other than of a tonic nature.

Bartholow as a Teacher

"Into such as this came Roberts Bartholow, who remained a student of medicine after having left the College of Medicine. In the Ohio Medical College, where I attended his class in chemistry in the winter of 1863–4, about which time he made his great national reputation by his articles on potassium bromide and on ammonium bromide, with open eyes Doctor Bartholow saw the limitations and the narrowness of medication by authority. Then it was that I, being a drug-clerk in the principal retail drugstore of Cincinnati—that of W. J. M. Gordon—and a pupil of his in the Ohio Medical College, became a favorite of Professor Bartholow as a student in pharmacy."

"Before Professor Bartholow left Cincinnati for Philadelphia, it may be said, without fear of contradiction, that in his own school in Cincinnati there had arisen a feeling of rivalry, perhaps of jealousy, among some of the most talented Cincinnati physicians. Partly was this due to certain innovations that could not be tolerated by some of his colleagues, one of these being the physiological investigations of drugs by the destruction of animal life. And in some directions, at least, Bartholow should have been criticized for his indifference to animal suffering.

"Robert Bartholow, in his work in Cincinnati, was indefatigable, all day long hurrying from one patient to another, giving his lectures in the college, and sitting up at night till all hours studying, writing, and experimenting. All this to him was but a pleasurable duty.

"Let me, in summing up these brief remarks on Professor Bartholow's personality, record that, as I remember Bartholow—my teacher, my ideal in work, who early inspired my enthusiasm in pharmacy—he was energetic, strong, liberal to a degree in one direction, dogmatically narrow in another, heroic in the face of vicious attacks by his professional brethren, and of a gentle spirit in it all (although cruel in his professional duties, when it came to physiological investigations), wrapped in his love for his ideals as concerns professional advancement; a strong man whose impress the medical profession is yet unconsciously feeling, and advanced thinker, and conversant with much that is considered now as a something new in physiological investigations; a man whose services were, in his prime of life, lost to his country through his indiscretions in the direction of his own strength of body."

Little need be added to this honest opinion of one who was fortunate enough to be associated with him in his crucial days, except to repeat at the close of this article that the world was made better and the regular school of medicine was made broader by the life and labors of Doctor Roberts Bartholow.

The Canned-Food Industry

And Some of the Fraudulent Practices in It

By **CHARLES F. LYNCH, M. D.**, Chicago, Illinois

EDITORIAL NOTE.—This is the third paper of Dr. Lynch's series upon "Foods and their Adulteration." Other interesting and informing papers will follow in succeeding issues of CLINICAL MEDICINE.

FEW industries in our country have shown such enormous growth in the present century as has the canning trade. From a very small beginning a few years ago, this great business has grown in volume and value of products until now it stretches from ocean to ocean and from the great lakes to the gulf; the annual value of the output running well up into the hundreds of millions. Practically every article of food used on our daily table can now be obtained from the cannery; meats, fish, fowl, milk, soups, vegetables, fruits, and in fact every variety of food that is edible in a cooked state forms a legitimate part of this enormous industry. Only those articles which are eaten only in the raw state, such as lettuce, for instance are at present exempt from entrance into the canned-goods traffic.

That this wide expansion in this trade has been of enormous value in increasing the variety and palatability of our food supply is beyond question. The cannery has, indeed, performed a most valuable service, and especially is this true in the case of the city dweller of moderate means, to whom a few years ago canned fruits and vegetables were a delicacy to be enjoyed by those only who were so fortunate as to have a good old "Aunt Mary" or "Grandmother," down on the farm, who would bring a few jars of her famous preserves with her when she came to spend a few days in town. Now the man of even limited means can procure many of the delicious fruits out of their season and in most palatable form at a comparatively small price.

The Unscrupulous Canner

Unfortunately, with the increased demand and the development of keen competition, there entered into the field many unscrupulous dealers who, in order to swell profits and pay dividends on inflated stock issues, resorted to multitudinous adulterations to cheapen their products and defraud the consumer. Commercial chemists lent a willing hand to the not overparticular dealer and showed him how he could take green, unappetizing and unwholesome fruits and, by the magic of adding small quantities of inexpensive dyes, convert them—to the eyes of an unsuspecting public—into rich, luscious, marketable products; with enormous profit to themselves, as raw fruits of this kind could be bought exceedingly cheap. Of course, no thought was entertained as to the possible effect upon the gastrointestinal tract of the defrauded consumer. A little thing like that could not be considered where such enormous profits were in sight.

Absence of official supervision led, in many instances, to the development of most highly unsatisfactory sanitary conditions in these establishments, and, while such canning plants are now comparatively few in proportion, a few years back many of them were in a most revolting condition, and under the management of individuals who had not the faintest conception of what is essential in the preparation of a wholesome product intended for human consumption. Still, although great changes have been effected in the past decade under the energetic efforts of federal and state inspection bureaus, the extent of this supervision is as yet entirely inadequate and many of the canneries at present are still unsatisfactory.

The process involved in canning foodstuffs is remarkably simple, but there are a few underlying principles that are essential to turning out first-class goods, and these may be stated as follows:

1. The fruits or vegetables selected for canning purposes should be only of the best grade, without bruises or signs of decay, and free from insects.
2. The fruit should be treated just as soon as possible after gathering, to prevent deterioration.
3. The product must be heated sufficiently to insure complete and thorough sterilization. The temperature and length of exposure required varies for the different products, some being much more difficult to sterilize than others. Among those that are particularly difficult is corn. Those of us who have lived on the farm will remember how difficult it was for our grandmothers to put up corn so that it would not spoil.

In our modern large canneries this process of sterilizing has been brought to a high standard of perfection, and, by means of vacuum-retorts, it now is accomplished under a pressure of from two to three atmospheres, this insuring complete destruction of all contained organisms. In other plants a brine-bath is employed for this purpose. The normal finished can, after sealing, shows concave ends. This is due to the exhaustion of the air from the cans, and it constitutes a valuable sign for detecting spoiled goods; for in those cans where fermentative changes are going on there is generation of considerable amounts of gas, which causes bulging of the ends of the cans—the socalled "swellers."

Canned Corn

Perhaps the largest single branch of the canning industry is the canning of green corn. More than 500,000,000 cans of this product are put up every year by American canneries. Canning establishments devoted exclusively to the canning of corn are found all over New England, New Jersey, Maryland, New York, Ohio, Indiana, Illinois, Iowa, and Wisconsin. The variety of corn used for this purpose is a special succulent Indian-corn, commonly known as sweet-corn.

Strangely enough, canned corn is but little known in European countries, remaining essentially an American article of diet. That it is popular in this country is amply attested by the enormous annual consumption.

Sophistication of Canned Corn

The old, old story of tampering, for purposes of cheapening cost of production and deceiving the consumers, is repeated in the case of this common food-product.

One of the early common practices of the corn sophisticator was the bleaching, or whitening, of the corn by exposing it to the fumes of burning sulphur or treating it with sulphite or the bisulphite of sodium or of potassium. The chemical reaction resulting produced a marked whitening of the article, adding to its attractiveness in the eye of the consumer; but it also resulted in the deposit in the product of considerable sulphurous acid. Canners assert that this practice has now been abandoned, which is to be hoped is the case, since it is wholly indefensible and cannot be other than harmful.

In the regular process of canning a considerable percentage of cane-sugar is added. When the coal-tar chemists brought out their magic sweetener saccharin, they found a market in the hands of men only too ready to avail themselves of this great money saver.

That saccharin is undesirable in foods has been determined by the highest food-tribunals in the country, and it is to be hoped that official action will prevent its further use in any form of preserved edibles. It is not only an undesirable constituent in itself, but in substituting it for sugar *the products are robbed of a valuable food-substance by* supplanting it by a drug which undoubtedly must be classed as undesirable.

It has been claimed for saccharin that it is a most valuable substitute for sugar in those who on account of diabetes or other condition cannot assimilate sugars. This no doubt is true; but if the physician desires its use in these conditions he will prescribe it without consulting the manufacturer.

In many instances ordinary field-corn has been substituted for the more palatable sweet-corn, the deficiency in natural sweetness being supplied by a more liberal use of sugar or, often, saccharin, as the manufacturer saw fit. Another bad practice has been the addition of relatively large quantities of maize-starch in the process of canning, for the purpose of giving a rich, creamy appearance to the product. In this way an inferior article can be very materially improved in appearance. This practice is to be condemned, mainly because it is a deception, not because the starch is really harmful.

Without doubt the most dangerous source of contamination is the unsanitary conditions often prevailing in canning establishments. Many of these corn-canning plants have been found in most unsanitary condition and conducted with little or no regard to the protection of the product from contamination. This sort of thing is absolutely indefensible. It is impossible to put up a clean, wholesome food under such surroundings.

As stated before, federal and state inspection has done much to remedy these conditions, but there still is very, very much room for improvement. Every factory doing an interstate business should be under the constant supervision of a United States government inspector, the same as now obtains in the meat-canning industry. Every can of the goods should bear the stamp of inspection and approval by a federal inspector. This is the only way in which we can absolutely assure a pure product, and restore public confidence in these goods.

The cost of such an inspection system would not be excessive and might well be borne by the manufacturer, who could put a fractional charge on each can of goods sent out under inspection. If it is essential to surround our meat-canning industry with these safeguards, I see no reason why it is not equally important that these other products be likewise protected as to quality and purity.

Canned Peas

Second in importance to the corn-canning industry comes that of green peas. Enormous quantities of this vegetable are consumed every day in American homes. This industry not only is a large factor in our own commercial world, but Europe also contributes largely to our supply. Michigan and Wisconsin are notable producers of this vegetable.

Having been shelled from the pods, the peas, by means of sifting, are sorted into various grades of uniform size and this sifting not only results in improvement of appearance of the goods but also insures more perfect sterilization.

Fresh peas possess naturally a light-green color, which is due to chlorophyl. But this natural color rapidly deteriorates upon aging, thus leaving the peas of a whitish or pale-yellow color. The practice (probably originated in France) of imparting a lasting green color by adding sulphate of copper was an ingenious way to preserve the youthful appearance of the peas. The color thus imparted, however, is not the natural pea-green, but a much heavier, darker and duller hue. This addition of copper salts is wholly unnecessary, nor can it be justified by the claim of manufacturers that the copper enters into chemical combination with the vegetable, which renders it inert in the alimentary canal.

Our old friend saccharin has found purchasers among the pea-canneries as well as in other branches of the food-industry, and here also its use is to be just as strongly condemned as in any other food-substance.

Peas should be canned while they are in a green, succulent state and should not be allowed to become too near mature before being put up. In some canneries, however, the more mature peas are also canned and put out under most fanciful names. These undesirable peas are to be had at a very low price, and the canners who utilize them put them through a course of soaking in brine before placing them in the cans. These are known in the trade as "soakers" or "soaked peas." On the shelves of the grocer, however, they appear all too often in very attractive cans and labeled "Extra Early June Peas" or with some other equally attractive name, a beautifully lithographed design showing a dish of the *small, sifted variety*. This is a rank deception and misbranding and such manufacturers should be made the object of vigorous criminal actions that would bring them to a realization of the fact that it does not pay to lie to the purchasing public.

These soaked peas are probably equally nutritious, but they are not as palatable as the small sifted ones; but, while they should be allowed on the market, it should be only if properly labeled. This would insure their sale at a price commensurate with their intrinsic value.

The presence of copper in canned peas may readily be detected by a very simple test. Place a small quantity of the peas in a dish, grind up into a pulp with a little water, add a few drops of hydrochloric acid and boil. Into the boiling mixture dip a clean knife-blade or wire nail; if copper salts are present a deposit of metallic copper will be formed on the bright iron surface.

Canned Peaches

Peaches are one of the most widely grown as well as most luscious of American fruits, and they enter largely into the canning industry. It is fortunate that relatively few adulterations are practised in this branch of the trade. Little or no resort is had to the use of artificial colors in the preparation of this fruit, while saccharin is rather undesirable, from the canner's standpoint, as these goods are wanted in a thick, rich, syrupy liquid such as is impossible with saccharin. Preservatives are also but little resorted to, as this fruit is quite easily sterilized and keeps well.

In recent years there have been advertised in a number of the cheaper farm and household journals of the ten- and twenty-five-cent class recipes for the preservation of cold-process preserves, so called. Most of these recipes called for the purchase, by the housewife, of some form of proprietary powder to be used in the preparation of the fruits that were to be preserved with little or no cooking, "thus preserving the natural flavor and color." This sounds very nice, indeed, as it eliminates a great deal of labor, saves time, and gives a more natural product. But when we go beneath the surface we do not find things quite so brilliant as they seem.

We find that these socalled preserving-powders are nothing more nor less than our old acquaintances, the chemical preservatives, masquerading in new, enticing clothes to delude unsuspecting housewives into using them. Not only are these preservatives as harmful in this form, but the directions given with these powders often call for the addition of the antiseptics in such enormous proportions that the effects are manifoldly more dangerous than in the relatively small amounts used by the commercial manufacturer. The advertising and sale of these powders through the United States mail should be prohibited, since the practice is worse than fraud, in that the purchaser is unknowingly led into using a harmful substance.

Canned Berries and Tomatoes

Canned berries have one added danger in the fact that these acidulous fruits have a particular power of attacking the tin of the cans, if they are not properly made to resist this corrosive action, and thus yield the salts of tin to the fruit. These added tin salts are exceedingly toxic and form a most dangerous source of poisoning. All cans containing any acid fruits should be carefully examined for signs of corrosion as soon as opened and all those rejected that show evidences of chemical action.

Another point in this connection is, that none of these fruits should be allowed to stand in the opened can for any length of time, as the presence of air aids in the chemical process going on.

Tomatoes are another fruit in which the danger of chemical action is pronounced, and tomatoes should be emptied from the can as soon as it is opened.

Canned tomatoes form a large percentage of the annual sales of our city merchants, and the popularity of this form of canned goods is on the increase. The cheapness of the product as well as the known physiological action in aiding in keeping the tonus of the gastrointestinal tract up to par are large factors in the popularity of the tomato. There is comparatively little food-value shown on analysis, but the use of tomatoes as an article of diet is highly conducive to increased secretion and activity of the intestinal tract.

Increased popularity has led here, as in other goods, to increased adulteration, and the tomato has come in for its share of attention at the hands of the conscienceless dealer. These shrewd chemist-manufacturers are able to take unripe tomatoes and convert them into "high-grade luscious fruit" by the use of a convenient coal-tar dye. Saccharin, likewise, makes a ready substitute for sugar, and any tendency to deterioration due to lack of care in selection of the fruit or high cost of sterilization is readily overcome by a liberal allowance of a preservative. The resulting mixture of green fruit, coal-tar sugar, coal-tar dye, embellished with a masterpiece of the lithographer's art, makes a most profitable addition to the trade, one that should be highly appreciated by the purchaser.

Many of the frauds depicted above are being abandoned by honest dealers since they have been shown the danger of such practices in ruining the health of their customers, and probably more so since some of them have felt the strong hand of the federal and state authorities as an added persuader to respect the rights of their customers.

The work of inspection is not half begun, however, and but little can be accomplished until the consumer becomes thoroughly awakened to the importance of demanding and insisting upon a more thorough inspection, and carry this insistence to the point of demanding of their legislative representatives the enactment of more stringent laws and more adequate appropriations for the enforcement of the same.

It is the duty of the physician to warn his patients of the dangers of insanitary conditions surrounding the production of canned foods and to educate them to insist upon a more thorough and efficient system of inspection.

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[With all that Dr. Lynch says regarding the necessity of perfecting the sanitary conditions in our canning establishments we heartily agree. This writer is of the opinion, however, that the goods put up by reputable firms (and the best firms usually spend money to advertise) are clean, wholesome and safe. His statements regarding saccharin require some modification. First, the use of saccharin in food is now prohibited by federal law, and is, we think, practically abandoned in this country. Second, while the government has succeeded in securing the prohibition of saccharin, the evidence as to its harmfulness is not conclusive. It should be remembered that the Roosevelt Commission, consisting of such eminent chemists as Welch, Chittenden, and Long, decided unanimously that in the small quantities usually employed as a sweetener it was free from harm. The excessive use of sugar, with its proneness to undergo fermentation in the intestinal canal and set up gastric and bowel disturbance is known to be the source of much disease. Americans use more sugar per capita than any other people in the world. This excessive consumption has been called a "crime," and it needs no official encouragement. Personally, we think too much sugar just as dangerous as the little saccharin the average individual gets in his canned corn or peas—or did get under the old régime. The main thing is that the consumer should know what he is getting.—Ed.]

The Therapeutic Virtues of Sparteine Sulphate

A True Heart Tonic, a Regulator of Heart Action, a Nonirritating Diuretic Suitable for Administration Hypodermatically as well as by Mouth. No Untoward By- or After-Effects

By **GEORGE E. PETTEY, M. D.**, Memphis, Tennessee

EDITORIAL NOTE.—The following report of the author's clinical study of sparteine was prepared for his work on "The Narcotic-Drug Disease, and Its Treatment" (now in press), but with some slight alterations, is here presented to the readers of CLINICAL MEDICINE, *with the hope that this remedy may fill a vacant place in their armamentarium as it has in that of the author. It is confidently believed that, when the profession becomes fully acquainted with the physiological effects and remedial value of this drug, it will be esteemed by practitioners as one of the few indispensable remedies.*

II

WHILE sparteine is a remedy of the greatest value in the treatment of drug-addiction as well as in all other conditions requiring the support and regulation of the heart action, it is in pneumonia that it fills a place that no other remedy, or combination of remedies, fills equally as well. For, in this disease we have an overworked heart, high blood pressure, pulmonary and general venous congestion, and death results from failure of oxidation of the blood due to heart exhaustion. Sparteine counteracts the development of the latter condition more perfectly and does more to correct it after it has developed than any other drug with which the author is acquainted.

Sparteine decreases the frequency and increases the force of the heart action, imparting a reliable degree of tone to the heart-muscle. At the same time, by dilating the arteries and reducing blood pressure, it relieves the heart of its burden, thus enabling it to handle the volume of blood without laboring and to throw an ample current to the lungs, where the improved capillary circulation which it induces promotes abundant oxidation. And it does this without a single unpleasant, undesirable or hurtful effect. In fact, the only other effect of the remedy is one which, in pneumonia, is needed almost as much as the one which has just been described.

The power of the remedy to improve the arterial capillary circulation renders it a most certain and efficient nonirritating diuretic. In pneumonia, as well as in drug-addiction, its diuretic effect is a very helpful one. An instance from practice may illustrate its promptness, efficiency and usefulness in this direction.

Case 1: Sparteine for the Pneumonic Heart

A man (I. McF.), 65 years of age, was admitted to the sanitarium on February 8, 1900. In coming from his home, he had traveled a part of the way overland in a drenching rain and was wet and shivering from cold when he arrived. The patient had used crude opium habitually for twenty-seven years. He was put to bed after a hot bath and soon became comfortable. That evening he was given a thorough eliminating course, and by noon the next day his intestinal canal was well emptied. So far as could be seen at that time there was no ill effect from his exposure. The habitual opium was then withdrawn and the patient kept under the moderate influence of hyoscine for the next two days, during which time calomel in small doses was given, to stimulate the action of the glandular system.

On the fourth day of treatment, when it was sought to discontinue all narcotic drugs, the patient began to show signs of pneumonia and in a short time that disease was well developed. His condition was recognized as one of extreme gravity from the beginning, because of his age and feebleness and of the long-standing drug-addiction, as well as because of the large area of the lung involved. The temperature ran high and other symptoms were of corresponding severity.

The author had been accustomed to rely upon digitalis, strychnine, and whisky for support of the heart in such cases, and these were freely administered, while the administration of an opiate was resumed. Yet, notwithstanding every effort made to support the patient, by the fourth day of the attack a fatal termination within twelve to twenty-four hours seemed inevitable. His pulse was 120 when he was reclining quietly, but the slight exertion of raising him to a sitting posture would increase the rate to 150. Respiration was 40 and labored, the face livid; in fact the general carbon-dioxide poisoning was rapidly developing.

The author had had some experience with sparteine prior to that time, but not enough to gain much confidence in it. Still, it was evident that other remedies were failing, and so it was decided to give that alkaloid a trial. Accordingly, 2 grains of sparteine sulphate was given hypodermatically, and this dose was repeated at intervals of two hours.

At the time of injecting the second dose a distinct improvement in the patient's condition could be seen and within six hours the change was very marked. The pulse had come down to 90 per minute and the volume and quality was very much improved; respiration was 30 per minute and much less labored; assumption of the sitting posture now increased the pulse-rate only 10 per minute, instead of 30, as before. The digitalis and strychnine then were discontinued, but no other change was made in the general treatment. By the end of the first twenty-four hours after beginning with the sparteine the pulse-rate was down to 70; and from that time on throughout the attack the pulse was held between 70 and 90, and the patient made an uninterrupted recovery.

For the first six days sparteine was given hypodermically in doses of 2 grains every two hours, and then the intervals were lengthened to four and finally to six hours. Its administration was kept up for three weeks altogether, by the end of which time the patient had gained sufficient strength not to require support.

After the administration of sparteine was begun it was depended upon entirely for control and support of the circulation, and it met these indications more perfectly than any other drug had ever done in the author's hands.

This experience led the author to make very free use of this agent and to study its action closely. During the twelve years intervening since that experience the author has used sparteine most freely and in a large and varied series of cases, and he is sure that it has enabled him to meet successfully many extreme conditions, which he could not otherwise have done. One of the most marked among these was an infant of six weeks, where there was failure of closure of the foramen ovale. This little patient was under the care of Drs. Jordan and Goree of Pine Bluff, Arkansas.

Sparteine in Cardiac Embarrassment in an Infant

At birth the child appeared to be entirely normal, but at six weeks of age it began to show signs of venous stasis, the bowels became torpid, and as the portal engorgement increased the heart action was more embarrassed and a real "blue baby" was soon the result. Physicians were called and the treatment begun. Calomel and other evacuants were administered, but without favorable results. Strophanthus and nux vomica were given in sufficient quantities to establish the full physiological effects of these remedies, but in spite of all treatment the condition of the little patient grew worse. The heart action became more rapid, the general venous congestion more marked, and the breathing extremely embarrassed.

The author saw the child on the third day from the development of the more marked symptoms, and it seemed to be beyond hope: the pulse could not be detected at the wrist, respiration was 90 per minute, and the entire body was blue from venous stasis. It did not seem possible for the child to live an hour longer. The sick baby was in the care of two of the most competent physicians in the city and their treatment was in accordance with the teaching of the best authorities, but no improvement had been made in its condition by anything that had been done.

The attending physicians extended to the author the courtesy of prescribing whatever he thought best; however, nothing seemed left for him to do than to give some soothing potion to lessen the little sufferer's agony of death. With that idea in mind, he administered 1-60 of a grain of heroin. At the end of half an hour the child was still alive, but in a more stupid state; breathing, while rapid, was attended with less effort and was shallower. At this juncture the author felt that, inasmuch as the child had not died during this hour, it would be wrong to sit idly by and do nothing; so he decided to give sparteine a trial.

Acting upon this thought, 1-10 grain of sparteine sulphate was administered, and in thirty minutes signs of improvement were detected. Breathing became less labored, and by the end of thirty minutes more this and other signs of improvement were unmistakable. Two hours from the time of giving the first dose of sparteine, 1-20 of a grain more was given. At this time the respiration had decreased to 70 per minute, and the pulse could be detected at the wrist, although it could not be counted. In two hours more—or four hours from the time the first dose of sparteine was given—the respiration was 60, and the pulse, 150, and could be counted at the wrist. The deep-livid hue had given way to a bright arterial flush, resembling somewhat the flush from belladonna. The child nursed and then fell into a natural sleep for the first time in three days.

The improved circulation, with the attendant aeration of the blood, soon restored the infant's nervous system to its normal responsiveness and then the purgatives, which had lain dormant in the system for two or three days, began to act and continued to do so until the bowel was well emptied. This, of course, overcame the obstruction of the portal system, which was doubtless the cause of the original attack, and the child was practically well within twenty-four hours.

Sparteine in 1-20-grain doses at intervals of four hours was continued for a week, when the periods between the doses were lengthened to six hours; and this latter dosage was kept up for five months, when medication was discontinued. No further disturbance of the circulation occurred, and the little patient is now a strong, healthy child.

The only salt of the alkaloid sparteine (derived, as stated before, from cytisus scoparius, the tops of common broom-corn) on the market is the sulphate, and no doubt it is as satisfactory for general use as any other combination. It is readily soluble in cold water, and even slightly deliquescent, but if kept in stoppered bottles it maintains its dry, crystalline form. It may be administered either hypodermatically, by mouth or by rectum.

Two Grains Is the Proper Dose

In studying the action of any drug, the only rational course is to administer that drug alone, uncombined, in such doses and at such intervals as to establish its full physiological effects upon the system. After maintaining that effect for a reasonable time, if the physiologic impression or remedial effect sought to be made has not materialized, then one has reason to doubt the efficacy of the remedy. Confirmation of this experience by repeated trials would justify its entire rejection; still, until such a study has been made, no therapeutic agent should be said to be of no value.

Those who have employed sparteine according to the rule laid down hold it to be one of the most valuable therapeutic agents in our entire list, classing it along with remedies such as, for instance, calomel, quinine, strychnine, morphine. Those writers who consider it of little value place the dose at 1-30 to 1-4 of a grain; but these small doses are entirely insufficient and will disappoint anyone who may depend upon them.

The writer has made a careful study of this remedy, having used it in doses of all sizes, from the fractional grain up to 3 grains given at intervals of two hours. It was found, however, that doses of 2 grains given at intervals of from three to six hours would establish and maintain the full physiological and remedial effects of the drug in the case of average adults. When the effect of the remedy is urgently needed it is best to give 2 grains at once and to repeat that dose at the end of two hours; thereafter the same dosage may be continued at intervals of three, four or six hours, as seems indicated.

It Is a Reliable Diuretic, Especially After Operation

Sparteine is a reliable, nonirritating diuretic. This action occurs whether the remedy be given hypodermatically, by the mouth or by the rectum. The general improvement it induces in the systemic circulation (especially that of the capillary arterial circulation) extending to the kidneys necessarily would result in diuretic action; however, it seems to have a special selective action upon the renal circulation. Its diuretic action is marked, but it does not act as a diaphoretic.

Sparteine has been found very useful in postoperative suppression of urine. In discussing the paper Dr. Montgomery read before the North Carolina State Medical Association, at Raleigh, in May, 1904, the author called attention to sparteine as a reliable, nonirritating diuretic capable of being administered hypodermatically. Dr. Stuart McGuire was present and heard the discussion, and was induced to prescribe sparteine in such cases, ordering it in 2-grain doses. As a result, he reported, in *The American Journal of Surgery* of February, 1907, six cases of postoperative urine suppression in which, he feels sure, he would have lost his patients under his former management but who were saved by a free administration of sparteine; he gives the entire credit for recovery to that drug.

This experience has brought Dr. McGuire into entire accord with the statements of the author, that the only reason why the drug is not in common use is because it has been tried in dosage entirely too small to be effective. Thus he says: "To get results, it [sparteine] must be given in doses of 1 to 2 grains, repeated every three to six hours." When so given, he continues, he has "repeatedly seen it slow a run-away heart and set in motion the pair of stalled kidneys."

Shock and Nausea Prevented By Sparteine

In surgical cases, sparteine is also of great value in preventing shock and postanesthetic nausea. Its power to sustain the heart action during the anesthesia reduces shock greatly, if it does not entirely prevent it. If the shock is avoided, postanesthetic nausea rarely occurs, provided the intestinal canal has been properly emptied before the anesthetic was given. The notes about two cases which follow are fairly typical of the series of forty consecutive cases in which the author prepared the patient for operation, in none of which nausea followed the anesthetic.

The first case was a hip-joint amputation; patient tuberculous; operation by Dr. Crisler.

The patient was prepared for operation as follows: Purged with pills consisting of calomel, 10 grains; extract of cascara, 10 grains; ipecac, 1 grain; strychnine nitrate, 1-6 grain; atropine sulphate, 1-50 grain; made into 4 capsules, one being given, on an empty stomach, at 4, 6, 8 and 10 o'clock p. m.; these followed next morning by 3 ounces of castor oil. Forty-eight hours later the same course was repeated. This was twenty-four hours before the operation. The patient was then put on 2 grains of sparteine, by the mouth, every three hours, and was given liquid nourishment up to within a few hours of the time of the operation. An hour before the time of the operation 2 grains of sparteine, and 1-4 grain of morphine with one 1-100 grain of hyoscine were given hypodermatically.

The patient went on the operating table with a pulse of 84. Ether was used, and the operation lasted one and one-fourth hours. During that time there was practically no variation in the rate or volume of the pulse, while at the completion of the operation the pulse was 88, full, strong, and regular. Just before the close of the operation 2 grains of sparteine was given hypodermatically, and the same dose was repeated at intervals of four hours for several days. Before removal, the patient was given one pint of saline solution by rectum and put to bed. No nausea followed, and shock was not perceptible. The patient was allowed water up to the time of operation, and he was given hot liquid nourishment, half a glassful, three hours after operation; this being repeated every two or three hours during the following day, when other nourishment was per-mitted.

The second case was an operation upon the cervix and gall-bladder. Operation by Dr. Max Henning. The patient was prepared for operation as the one in the former case, and was given sparteine, 2 grains by mouth every four hours for the last twenty-four hours before operation. The last dose came one hour before operating, at which time 1-4 grain of morphine and 1-100 grain of hyoscine were given hypodermatically. Ether was the anesthetic employed. The pulse at the time of beginning to operate was 84. At the close of the operation it was 90, with no perceptible change in volume. Shock was practically *nil.* One pint of saline solution by rectum was administered as soon as the patient was returned to bed. Hot water to drink was allowed three hours after operation and from that time on was given as freely as the patient wished. Buttermilk was given nine hours after the operation. The patient was not nauseated in the slightest degree at any time. Sparteine was continued at 4-hour intervals after finishing the operation.

In this series of forty cases—in which the preliminary purgation was carried out with the same degree of thoroughness above noted, and the patient kept under the influence of sparteine for twenty-four hours before the operation—shock has been hardly perceptible and nausea has not occurred; whereas, with the same care in preparation of the patient but without the aid of sparteine, vomiting occurred after the anesthetic in a majority of the cases; the pulse-rate frequently was from 20 to 40 beats per minute more at the close of the operation than at the beginning and the operation was attended by the usual degree of shock.

When the patient's intestinal canal has been thoroughly emptied and portal engorgement overcome before the operation, and the patient is well under the influence of sparteine at the time of operation, it is rare to have a variation of more than 10 beats per minute in the pulse-rate during a prolonged operation. Shock is much reduced and nausea rarely occurs.

Such a result, however, can not be expected from the administration of sparteine in emergency work where there is no time for cleansing the patient's system of toxic matter; neither can it be expected in cases where a saline cathartic alone is depended upon to empty the intestinal canal. But even here sparteine contributes materially to the safety and comfort of the patient.

The administration of sparteine after the operation is also beneficial. It insures a more uniform and efficient circulation, especially in the capillary system; and this tends to promote primary union.

Sparteine sulphate sells in the market for about 70 cents per ounce. Merck's, Malinkrodt, Squibb's, and Powers and Weightman's preparations have been found equally reliable. For hypodermatic use, 2 grains dissolved in 20 minims of sterile water yields a suitable strength for use. This solution causes pain when injected into the tissues, but in many thousand injections the writer has not observed an abscess to follow. For stomach administration, the capsule is the most convenient vehicle. A No. 4 capsule holds practically 2 grains, and that is a safe and efficient dose.

In endeavoring to secure some salt of sparteine less irritating when injected hypodermatically, the author secured from Merck & Co. a supply of the hydrochloride. This salt was found to be very deliquiescent and, hence, difficult to preserve; but after giving it a thorough trial the author reached the conclusion that it had no advantage over the sulphate. When a solution of the hydrochloride of the same degree of concentration was used it proved to be equally as irritating to the tissues as did the sulphate; therefore its use was given up and the use of the sulphate resumed. The sulphate and the hydrochloride are the only two salts of this drug listed by manufacturing pharmacists in this country, and, so far as the author has been able to learn, they are the only compounds prepared. They are, in fact, the only practical preparations.

The Neglect of Vaccination

Are We, As Physicians, Directly Responsible for the Continuance of Smallpox in the United States?

By RICHARD SLEE, M. D., Swiftwater, Pennsylvania

HOW oft is the hope expressed that the near future will give us remedial agents in the way of vaccines, antitoxins or chemical compounds for the prevention or cure of those scourges, tuberculosis and cancer. To us laboratory workers, such expressions do not, at times, convey the incentive that they might, did we feel sure that proper use would be made of such discoveries.

We have, indeed, a preventive for many specific diseases, and the means of eradicating all of the scourges which formerly appalled the world. The blunt truth of the matter is, that, in reality, we do not need so many new discoveries, but rather there is a crying need for the proper enforcement and utilization of such means as are right at hand.

At the present time, scattered throughout this entire continent, are isolated cases or even fair-sized epidemics of smallpox. This is a loathsome, dreaded disease, and in times past its mortality far exceeded that of either tuberculosis or cancer, and those it did not slay it left hideously marked for life. Jenner's discovery in its early days impressed the people, familiar as they were with the ravages of smallpox, to such an extent that vaccination became almost universal. The American people, however, are prone to postpone grappling with any difficulty until it actually arises, while past experiences are readily forgotten by them. We make little or no preparation for possible wars, and the same applies, in many instances and in many sections of the country, to our sanitary conditions.

In looking over your family lists, do you ever ask yourself this question, "Am I doing my full duty toward my patients in regard to this subject of protection against smallpox?" Are you following up the babies, children, and adults for that matter, and insisting upon their vaccination and revaccination, until you are sure that they have had a typical "take," followed by its characteristic scar? Or do you look upon the operation of vaccination as of trivial importance and postpone it until the children begin to flock into your office during those muggy days of August or early September when the school authorities jog their memories and insist upon their vaccination certificates.

The socalled cowpox from which we obtain the virus for vaccination is unquestionably but a modified form of human smallpox. It is governed by the same biologic laws in relation to its virulence.

Producers of virus for many years have been worried by their inability to obtain a reliable, active vaccine during the summer months. Virus made during the warm weather is unreliable and often absolutely worthless. Our schools open early in September, and such states as require compulsory vaccination demand that the pupils present certificates of successful vaccination before admitting them.

The result of this very unwise regulation is, that thousands of children, in anticipation of the beginning of their school-life, are vaccinated during the summer months, and this frequently with the result that they are only partly protected or the operation is an entire failure. Thus, undoubtedly, we have growing up throughout this country a large army of nonimmunes.

The infectious agent in smallpox and cowpox is as yet undiscovered. We do know, however, certain things in regard to its life-history. Smallpox, while it prevails in tropical and semitropical climates, is essentially a cold-weather disease. As a rule, the epidemics of smallpox are in the more northern climates and during the winter months. It is rare, indeed, that we hear of any epidemics during the warm seasons, and such cases as do occur are apt to be mild.

A good, active virus will maintain its virulence for years if kept at a temperature of 0° F., or —18 C., or lower. At ordinary ice-box temperature, virus will maintain its activity for three or four months, but at temperatures ranging from 70° to 90° F. or higher for a few hours it rapidly loses its virulence and becomes attenuated or actually worthless. It does not require much reasoning on the part of the physician to appreciate that a good, active virus, when removed by the producer from its proper temperature conditions and shipped during warm weather may, and very probably will, become inert in the course of a few hours.

February, March, April, and May are ideal months for performing vaccination, yielding a maximum of successes. For many years in European countries, especially in Germany, vaccination against smallpox has been done in the late winter or early spring months; and it would be wise were the laws of this country such that vaccination be prohibited, under normal conditions, during the summer months. This would insure the operation being performed during the proper season.

In the absence of such legal regulation, however, it behooves us, as physicians, to avail ourselves of the expert knowledge we are presumed to have of actual conditions, and to protect those who depend upon us for their maintenance in health. The physician has ceased to be a mere treater of diseases, his functions today, with our present knowledge, being as much that of a prophylactician.

It may be, perhaps, that you who deign to read this little preachment will say to yourself, "Oh, this does not apply to me; all this is meant for the other fellows." Let us see.

Colonel Gorgas, of the Medical Department of the United States Army, certainly did not entertain any such sentiments when he assumed charge of the sanitary affairs of the Panama Canal. The Isthmus of Panama in the past has properly been called the "plague spot of the world." Brave men died there by the thousands. Today, through the efficient work of Colonel Gorgas, the canal zone is a more healthful and salubrious spot in which th dwell than is your own village, or city. Controvert this statement if you can.

Your wife, your children, your associates, due to your own carelessness, disinclination or what not, have not as favorable prospects for life, happiness, and longevity as have those hordes of mixed and uneducated laborers of the Canal Zone. Are you personally in any wise a contributor to the mortality and morbidity-rate in your own family and community? Do you practice, and insist upon, vaccination against smallpox, or anti-typhoid prophylactic inoculation, or diphtheria immunization, the extermination of mosquitoes? But why continue the list? Frankly, what are you personally doing with all of these established methods to help make your own neighborhood even approach the Canal Zone as a health resort?

As an educated and scientific man, are you, doctor, willing to admit that the only way to secure proper sanitary conditions is by military rule and administration? For, that it is feasible and practicable under such a rule and administration, has been placed beyond the pale of doubt. If you feel that this, the military rule, is the only method by which these desirable conditions can be obtained, then, I say, let us have militarily enforced sanitation, and that quickly. If not, then let each and every physician prove by his own energy and efforts that such autocratic authority is not necessary in this country and this enlightened age. What is the verdict?

We hear much about the freedom of the American subject, or, I should rather say, the American citizen. The fact remains, however, that "liberty" with us would better be spelled "license" license to do what we please, regardless of how it affects our neighbor—license to neglect, overlook, ignore such preventive or prophylactic measures as are this very minute available to every physician in every place.

Microscope and Test Tube—Friends Indeed

By B. G. R. WILLIAMS, M. D., Paris, Illinois
Author of "Laboratory Methods, with Special Reference to the Needs of the General Practitioner"

EDITORIAL NOTE.—We are sorry to announce that this, the eleventh paper, concludes Dr. Williams' delightful series upon "Surprises, Delights, and Curiosities Encountered in Medical Laboratory Work." Happily, we are also able to promise other contributions from Dr. Williams' pen, to the appearance of which all of us will look forward with the anticipation of pleasure and profit.

A friend in need
Is a friend indeed.

IN this, my final, article on "Surprises, Delights, and Curiosities Encountered in Medical Laboratory Work," I desire to express my appreciation of the kind reception of the series by the readers of CLINICAL MEDICINE. My only means of estimating this spirit has been through the receipt of your many kind letters of inquiry and encouragement, all of which have helped me. If in turn anything has been gained by you from reading these little stories and ideas, it is only fair that I credit your editors, Drs. Abbott and Burdick, for prompting me to undertake writing them. It is to the credit of this journal that it has stood practically alone for several years in bringing before the practitioner the need of inquiring into the accuracies of diagnosis as well as therapeutics.

The Golden Rule in Diagnosis

A brother physician, a man known to me mainly by virtue of his vicious attacks upon the science of Virchow and Pasteur, was suddenly seized with a fainting fit and fell from his chair at the breakfast table. He recovered quickly, but called me to his office later in the day. He volunteered:

"Do you know that perhaps the reason why I have ignored the diagnostic possibilities of laboratory work might best be expressed in a confession of my *ignorance concerning these possibilities?* You recall, perhaps, a few months ago when I boasted that I could cure a disease while you were searching for the germs which caused it? Of course I meant that only as a joke." He proceeded to detail to me his observations in his own case and his failure to locate the trouble. "I believe that I am in need of expert consultation," he continued. "If there is anything which your microscope and test tube can determine in regard to this trouble, I should like to have their assistance.

The aid sought was given, and the kidneys of that man were proved not to be diseased. He prescribed for himself a few heart granules, and has never experienced another attack. His attitude in regard to laboratory aids in diagnosis has been changed—Saulus became a Paulus.

And it is the inevitable. The wife of a physician whose practice had not breathed the laboratory spirit was affected with a tendency to metrorrhagia. Was this man satisfied to continue in open antagonism to the big, new half of diagnostics? Was he content to tell his wife to remain happy in the diagnosis of "change of life"? Did he ignore diagnostic curettage and microscopy? No, indeed! When it came so near home he was willing to be converted.

Doctor, suppose your little boy becomes ill with a disease bearing some of the earmarks of typhoid fever, but there is some question about it. Down in your heart there is the great fear. Would a blood count show a marked leukocytosis? Is there hidden away in that little body an appendicular abscess? Are you doing all in your power to save his life? Or do you hesitate to insure your future hopes? Ah, I am sure that you do not hesitate to give him medicine's best.

Did you ever put yourself in your patient's place? Were you yourself ever seriously ill and saw doubt in the physician's eye as to the correct diagnosis and proper line of treatment? Do *you* apply the golden rule to diagnosis?

If you do, you are doing your best; angels can do no more. Our science is not yet perfect, but only he who throws the rays of his tiny lantern into its darkest corners possesses its beauties.

The Therapeutist, Surgeon, and Prognostician

Ignoring those duties which you owe to your fellow man, let us see what benefits may be derived from your faithful application of good things from the medical laboratory.

Perhaps you pride yourself upon your knowledge and successes in therapeutics. Is there a reason? I follow you to the home of your patient. You think it wise to examine his blood, and proceed at once to do this; or, if lack of time and equipment prevent, you call upon someone else to do so. Therefore the "typhoid fever" yields to your quinine. You pride yourself upon your ability in the treatment of disease.

A drop of secretion from the "cancer of the tongue" shows thousands of treponemas. Salvarsan and mercury correct the condition. Now your colleagues acknowledge your skill in the treatment of disease, and wonder.

The woman with persistent headaches passes a highly acid urine, and so you give her alkalis. Finally even the people hail you as the most successful physician of the community.

You place your patients with "dyspepsia" upon antituberculous treatment, you exclude carbohydrates from the diet of those of your patients afflicted with "nervous breakdown," you administer staphylococcus vaccine for the "inflamed ulcer," you place to your credit a series of other therapeutic successes—"*therapeutic* successes," did you say?

Perhaps you pride yourself upon your knowledge of surgery and your skill as an operator. Another man termed this a case of neuralgia of the stomach. But you proceed to remove this "neuralgia" in the form of gallstones. Before you begin treatment in a certain case of "rheumatics," you extirpate a purulent tonsil. You hesitate to apply iodine over the "cirrhotic liver" of another patient, but, instead, you drain a gall-bladder abscess just in time. "Cervicitis," say the other doctors; but your curette brings out cancerous tissue. Yes, indeed, you are a very successful surgeon, but to what do you owe this success?

Perhaps you pride yourself upon your cleverness as a prognostician. Do you advise the family properly by an examination alone of the cachectic father, or do you search also for casts? Do you prepare the husband for the worst, or bid him hope by a mere inspection of the suspicious ulcer of the breast or upon the appearance of the *cells?* Popular opinion has it that you can augur the outcome of almost every case of sickness. Upon what, pray, do they base these claims?

"She will die," the others assert.

"There is hope," you echo.

Why?

Do Not Break Our Diagnostic Triad

That the microscope and test tube are our only friends in need, I have never claimed. Though medicine is not a perfect science, its department of diagnostics approaches nearest this ideal. But to be of greatest aid, we must call in its three great systems of investigation. The union of these into a powerful triad brings us nearest the truth.

By Hippocrates, Sydenham, Louis, and Flint, we were shown the value of history-taking and of symptomatology.

Through Laennec, we gained our first knowledge of the possibilities of percussion and auscultation.

But how is it possible to diagnosticate best and treat best a disease unless we also know something of its cause as well as of its manifestations and the nature of the anatomical alterations?

And it was just this knowledge which was supplied by the founders of the laboratory idea: Virchow of pathology, Pasteur of bacteriology, and Ehrlich of clinical chemistry.

Now we all know of these things. There is no such term as "laboratory diagnosis." The triad cannot be broken here. Upon the other hand, in the light of our present knowledge, there is no such term as "bedside diagnosis"; and the man who ignores all laboratory aids will soon find himself in a hard place—in fact he will be in a position like to that of the toad who, jumping this way and that, finally gasped to the harrow, "You are too many for me!"

The Bluffer

In almost every city we find him nowadays—the bluffer. It is he who is buying laboratory gauds—nickel-plated sterilizers, expensive incubators, apparatus for photomicrography, and all the other paraphernalia designed to deceive the people and bewilder them with the impression that he is *the* progressive man in his community. Then he folds his arms and looks wise—and the dust collects upon the embroidery.

Does this man ever fool you? He never fools me. Even his patients soon demand that he use these ornaments or else store them in his basement. Cabbage will not make soup without fat. In this department of medicine, as elsewhere, I would advise intellect first and equipment later. The laboratory apparatus of one of our most famous old-time chemists consisted of a pan, two glass tumblers and a candle.

I am free to acknowledge that the bluffer has exerted a detrimental influence upon the healthful laboratory spirit; but times are changing, and his museum is not now found so easily. Less emphasis now upon the workshop—show us the *man*.

The Real Duty of the Practitioner

Our Jacobi (we all honor him), and many others having the good of the practitioner at heart, apparently would recommend that the family physician do all his laboratory work. I should be pleased to see this ideal condition realized, and I am sure that the obstacles are not so great as we have believed. For the past few years, as some of you perhaps know, I have been attempting to simplify and classify many of those procedures, thought to be impossible to the busy practitioner, in such a manner that he may utilize them in his work. In this undertaking, I have placed myself not in the large laboratory, but in the position of the rural physician and have hoped to view the question through his eyes, that I might be able to lead him to better things.

Still, at the present, it seems to me that the family doctor may well omit certain of these procedures requiring special skill, much time, and great expense, and refer these to the specialist. At least this is my usual advice at the present time; and this I shall continue to give until I am convinced that all worthy analytical procedures are possible for the general practitioner.

But there are many simple bits of baterio-logical, chemical, and micriscopical work which the physician is neglecting; and I trust that this series of papers will prompt him to undertake these. From time to time you will see in the columns of this journal many valuable tests which you may apply with diagnostic profit—aye, with therapeutic profit as well. I beg of you to mark these and use them in your work. It will pay you. The man who interests himself in these things will soon see their beauty and appreciate their value. Recall the story of the physician who conceded that he "ignored because of ignorance."

The greatest duty of the physician, therefore, is that of informing himself upon the practicabilities of the medical laboratory. Whether he actually carries out these tests or whether he calls a colleague who makes this work a specialty is a secondary consideration, at least so far as some investigations are concerned. Learn to interpret this information and apply it to your bedside observations, forgetting not the great diagnostic triad. Understand the circumscriptions and the value of the test, and you will gain much of the laboratory spirit.

Treat your patient as you would choose to be treated if you were ill. Exhaust every diagnostic aid which gives any promise whatsoever. Do not, as I have seen some men do, stake their lives and your reputation upon laboratory tests alone. Do not be content with a squint through the microscope or a shake of the test tube.

Do not search invariably (like the sluggard) for the "specific" test, else your experience will be as sad to relate as that of the man who attempts to discover the pathognomonic symptom or the specific drug for the disease-name.

It is the man who staggers through the wood searching for four-leafed clovers who butts his head into the oak; or he who steps onto a piano stool to nail a horseshoe over his door who gets the broken leg.

The Fundamental Laws of Active-Principle Therapeutics

By J. M. FRENCH, M. D., Milford, Massachusetts

EDITORIAL NOTE.—Last month we published the first address of Dr. French, delivered before the students of the College of Physicians and Surgeons, of Boston, upon the topic of "Active-Principle Therapeutics." That address was delivered January 9, and was followed in a week by the second lecture of the series, which we reprint herewith. The remainder will follow in succeeding issues.

LAST week I described to you the origin and growth of active-principle medication in Europe and America. Today I desire to call your attention to the fundamental laws, general principles, or elementary teachings, upon which this method of therapeutics is based.

According to my conception, these are three in number, and these three embrace all the things which are strictly essential to the method, although many other and less important peculiarities and practices have grown up around them, and of these I shall speak in my next lecture.

The First Law Teaches the Use of the Principles in the Treatment of Disease

The term "active principles," as here employed, is interpreted to include not only the alkaloids proper, but also many glucosides, resins, camphors, neutral principles, resinoids (so called), and concentrations of vegetable drugs, together with such definite chemical compounds as are sufficiently potent to produce positive results in minute doses, and of sufficient medicinal virtue to render them desirable additions to the physician's armamentarium.

This law has usually been considered not only as the first, but the most important of the three. The followers of active-principle medication are ever ready to put it to the front, and defend it as the cardinal principle of their faith and practice. If you ask them for their reasons, they will point you to the acknowledged facts that quinine is more active than Peruvian bark, atropine more positive in its effects than belladonna, morphine more definite and certain in its results than opium, pilocarpine more uniform in its effects than jaborandi, strychnine more efficient than nux vomica, and, in general, every active principle more potent, more uniform, and more reliable than the crude drug from which it is derived, or its galenic preparation.

This being the case, he holds that it is manifestly better to employ these active principles and reject the bulky residue, the inert matter, the unknown and unreliable substances whose effects cannot be predicted with any degree of certainty. For why should any part of a plant or of an animal or mineral substance which is not active be used in medicine? Instead of choosing his remedies for their bulk, and possibly for their disagreeable qualities, as was apparently in some instances the custom in olden times, he seeks for "the smallest possible quantity of the best obtainable means to secure a desired therapeutic result."

Arguments in Favor of Active Principles

If we analyze the arguments in favor of the active principles, we shall find that they can be separated into several classes.

First, because, as compared with the crude drugs and their galenic preparations, they are condensed in form, minute in dose, and positive in results; containing only the active remedial principle of the drugs which they represent, and rejecting the inert material.

Secondly, because they are uniform in composition, containing but a single therapeutic principle, and therefore always to be relied upon as producing the same remedial affect; whereas the crude drug may contain several unlike and even opposite principles, and these may occur in different proportions in different specimens of the drug, so that one sample of a galenic may be much stronger than another which was prepared from the same formula, and different samples similarly labeled may produce entirely different and even conflicting results. Recent analyses of standard tinctures on sale in the different drugstores of the same cities have shown a wide variation in strength, although all presumably contained the same percentage of the drug.

The drug-strength of a plant is affected by the character of the soil, the amount of sunshine, the temperature, and many other conditions of environment. And these may change, not only the total amount of active principles in a plant, but the relative proportions of the different principles in the same plant.

A good illustration of this fact is found in jaborandi, which contains two active principles, pilocarpine and jaborine, the one of which is the most potent of all our diaphoretics, while the other is the exact opposite, its effect being allied to that of atropine, drying up all the secretions. While under ordinary conditions the amount of jaborine is comparatively minute, and the drug jaborandi is given to promote the secretions, cases have actually occurred where it has been found to produce the opposite and undesired effect of drying up the secretions. But, if pilocarpine is used instead of jaborandi, no such effect is possible.

Keeping Qualities of These Drugs

Thirdly, they are convenient to carry, taking up but little space, and having excellent keeping qualities. These qualities render them of especial value to the country doctor who is far from his base of supplies. Dr. Robert Gray, of Pichucalco, Chiapas, Mexico, an American physician who has practised in the most unhealthy belt on the continent, most of the time since the close of the Civil War, writes as follows of his own experience.

"I carry one hundred and fifty-six active principles, weighing less than five pounds with case, the equivalent of which in galenic forms would load two mules. I am never ambushed by the enemy when suddenly confronted by some desperate emergency, no matter what the disease or the complications may be. I have the antidote while the time for medication still remains, and do not have to send prescriptions to a distant drugstore for uncertain remedies, a makeshift often fatal to an imperiled life."

As for the keeping qualities of the active-principle medicaments, they are due in part to the chemical qualities of the alkaloids themselves and in part to the manner in which they are held together in the standard granule, which is well known to preserve the medicaments much better than any kind of coating that can be applied to a pill or a tablet. This is well seen in the case of calcium sulphide, a drug that is almost certain to deteriorate by keeping when prepared in the ordinary tablet or pill form. Here the superiority of the standard granules over the other preparations is very marked.

While we believe in the superiority of the active principles, as a general rule, cases no doubt are encountered in which better results can be obtained from crude drugs and their galenical preparations, as well as from the coal-tar preparations and other chemical products. When this is so, they should be used without hesitation. In the words of Shaller, who is one of the first authorities on active-principle medication in America, "Any remedy that is good and that cures is used, no matter what its source or by what school it has been first advocated." The greatest need of the doctor is, not the active principles, but definite therapeutics, no matter whether it be in the direction of galenic medication, biochemistry, specific medication, serum treatment, or glandular therapy.

Small Doses Frequently Repeated

The second law teaches the administration of these remedies in minimum doses frequently repeated, until improvement is manifested or physiologic effects are produced. This is known as the intensive method of dosage, or dosage for effect.

I have said that the use of the active principles looms highest in popular estimation of all the characteristics of this method. But, if this were the only factor, it could never rise to the dignity of a system of therapeutics or even a method of administering drugs. The first law determines the tools to be used, the second explains the manner in which they should be used.

The matter of dosage is one of the first importance to the physician. In the system in common use—which we may term massive dosage—there is a maximum and a minimum dose laid down, and these must be learned arbitrarily for each drug and every preparation. Very likely there may also be an average dose given, which is supposed to be the one most commonly used; yet, if the doctor keeps between the limits of the maximum and the minimum dose, it is assumed that he is on the safe side and cannot be blamed, whether he fails to benefit the patient on the one hand or happens to kill him on the other—for has he not followed the dictum of the authorities and given the proper dose?

Like the spelling book, the dose book usually takes up a good share of the student's time when in school, and like it, again, is promptly laid on the shelf when school days are over. Of my two teachers of materia medica when I was in the medical school, from one of them I do not remember that I ever learned much of anything except doses—and I promptly forgot these as soon as I had passed my examinations.

With many remedies, when a maximum dose is given, it is supposed to produce the full effect of the drug, and a second is not to be given until the first is eliminated from the system. But whether or not it really does produce the anticipated effect upon the system, depends upon so many factors that no one can foresee what the result really will be.

If the patient is sensitive to the action of this particular drug, he may be overwhelmed by a dose that would produce no noticeable effect upon another person, even though the two might seem to be counterparts. On the other hand, we often meet with patients who are not easily affected by drugs of any kind, and hence require very large doses in order to secure results.

How is the doctor to decide in the case of a new patient whether the dose which he has administered will prove a poisonous one or will fail to produce any noticeable effect, either therapeutic or physiological?

This Method of Dosage Overcomes a Defect

The defects of this system of dosage are frankly admitted by our best therapeutists. Potter, in his excellent "Materia Medica, Pharmacy, and Therapeutics," says: "The dosage of medicine is the weakest part of the therapeutic armament, the flaw in our weapons which may be the cause of their failure at any moment, perhaps the most critical one for a life. If the accumulated rubbish of ages, which has been called therapeutic knowledge, is ever to be given scientific shape or placed in the process of becoming a science, the question of dosage must form one of the principal corner-stones in the foundation."

Now, it is this weak spot which active-principle therapy has undertaken to strengthen, this chief corner-stone which it has set out to put in its proper place in the temple of scientific medicine. Already, in the process of evolution, in the attempt to build our fragmentary therapeutic knowledge into a science, there has been formulated by the master-mind of Burggraeve and elaborated by the dosimetrists of Europe and their disciples in America, a system of dosage which avoids all the dangers mentioned and at the same time meets the requirements of safety, accuracy, and convenience.

This, as already mentioned, we call the intensive method, and its fundamental principle is dosage for effect. By this method, a minimum dose is given at the outset, and this is repeated at frequent intervals until the characteristic effect of the drug is secured, either therapeutic or physiological; and then less frequently as long as it is desirable to maintain the effect.

Granules of Minimum Dosage Employed

As a matter of convenience, the medicaments used are all prepared in granules of minimum dosage, so that the labor of learning the doses is entirely obviated, as the doctor never undertakes to put up his own granules. This system is especially adapted to the more powerful drugs of whatever nature, which are the very ones that by the common method give rise to the most anxiety, lest ill results should follow their use in maximum dosage, or no results be evident from their infrequent exhibition in minimum dosage.

For example: If the doctor wishes to give aconitine in a case of fever, he gives one granule, preferably in solution, every fifteen to sixty minutes, according to the intensity of the fever and the condition of the patient, until the remedial effect of the drug is seen by the establishment of perspiration, the pulse becoming softer and less frequent, the tongue moister and the fever less intense; or, failing to get these results, it is given until the earliest manifestation of its physiologic action, which is seen in the sensation of numbness and pricking in the lips and tongue, extending to other parts, makes its appearance.

The first group of these symptoms shows that the drug has done its work and that thereafter it may be given somewhat less frequently as long as it is desired to maintain the effect. The second group of symptoms indicates that as much of the drug has been given as can be with safety and it is time to stop. But in every instance these symptoms give ample warning in time to avoid all danger.

This method tends to accuracy in therapeutics. It relieves the physician of all fear of overdosing and all need of learning an arbitrary dose-list. But it requires an absolute knowledge of two things on the part of the physician: He must know, first, what he wants the drug to do—that is, the remedial effect. Secondly, he must know what the drug will do if pushed to the limits of safety—that is, its physiological action. These two things are absolutely essential. They are best learned by studying, in case after case, the action of each drug upon the patient, with your own eyes and ears and fingers, until you become familiar with their effects.

This experience in itself will make you a better therapeutist than you could otherwise be. That is one thing where the old country doctor, who remained with his patients the livelong night, had the advantage of the scientific young fellow of today, who simply looks at the nurse's chart and prescribes from that. But to be a good doctor, you must know the action of your drugs perfectly and be able to tell your nurse or attendant definitely what to look for, when to change the dosage, and when to stop. Do this, and you will get results.

Acute Diseases May Be Aborted

The third law teaches that acute inflammatory and febrile diseases may be aborted in a large proportion of cases, provided that the proper treatment is begun before the occurrence of structural changes. From this follows as a corollary the importance of beginning early in the treatment of disease.

Here at last we are brought face to face with a therapeutic principle around which many a hard-fought wordy battle has been waged, and the truth of which is not even yet accepted by a large proportion of the medical profession—namely, the possibility of aborting specific and self-limited diseases. It may, therefore, be worth our while to spend a few minutes in considering the arguments in favor of the principle which I have stated, in order that you may determine for yourselves whether or not it is true, and whether the resulting corollary is a safe one.

Here, with your permission, I will quote some passage from a paper entitled "Can a Specific Disease Be Aborted?" which I read before the Worcester District Medical Society some years ago and which was afterward published in *The Boston Medical and Surgical Journal.*

"To be on the safe side in this discussion, let us be sure of our definitions.

"*Specific disease*, a disease which has a determinate course and succession of phenomena, and is due to some distinct and definite cause, as syphilis or itch.

"*Special, limited disease*, one having a somewhat definite course and period of duration."

"*Abort*, 'to cut short the course or growth of.' (Standard Dictionary.)"

In the light of these definitions, the question for us to consider is practically this:

Is it possible for the physician, by any means at his command, to cut short the course or limit the growth of disease in general; and in particular of such forms of disease as are due to more or less distinct cause, and which, when left to nature, develop according to a determinate course and succession of phenomena, and have a somewhat definite period of duration? To be more specific: Can a simple fever be broken up or a local inflammation be cut short in its early stages? Can you limit the course of inflammatory rheumatism or abort a typhoid fever, a pneumonia, smallpox, gonorrhea, diphtheria, the itch? Can anything be done to limit the ravages of the bacillus tuberculosis when once it has begun its deadly work?

The answer which shall be given to these questions is of the utmost importance to the physician, as affecting his reputation, his success, and the satisfaction with which he practises his chosen profession. It is of even greater moment to the patients whom he treats, and the families under his care, because it helps to determine whether their physician shall be a welcome visitant, bringing hope and added years of life to the sick one, and giving courage to his friends and family, or one whose coming is looked upon with dread, whose presence breathes only despair, who admits himself a failure at the outset, and who practically counts himself out as a factor in the treatment of disease.

What Authorities Say

It must be admitted that the weight of authority is decidedly against the possibility of aborting a specific disease. It is almost universally assumed that a disease which has once gotten fairly under way must of necessity go on its course uninfluenced by medical treatment. Should a claim be made that a disease has been aborted, the usual answer is that the diagnosis was incorrect; that a disease is not a specific one unless it goes through a regular course, and if it does this it certainly is not aborted. Hence a specific disease cannot be aborted.

Just here the question suggests itself, Does not nature itself sometimes abort disease? Or, to phrase it a little differently, Do not diseases at times abort spontaneously? The answer to this is evident, and the fact is universally recognized by medical authors that such is the case. So well is this understood, that the second answer which is apt to be made to the claim that a disease has been aborted is, that it aborted spontaneously; or that it was an abortive case; or that nature aborts a certain proportion of cases. In each of these forms of reply, the fact of the shortening of the disease from its natural course is admitted and the only debatable point relates to the possibility of bringing about this result by artificial means, that is to say, by medical treatment.

But, if it be admitted that nature does actually accomplish this beneficent result in certain instances, then why should it be deemed impossible that art should be able to aid in the process? The law of cause and effect is everywhere the same, and it would certainly seem that where nature accomplishes a given result under certain conditions, it might be within the bounds of human skill to aid in bringing about these conditions, and thereby to assist in the work.

Should it be granted that such a result is within the bounds of possibility, and that it is also desirable, is it not the part of wisdom to seek for the means whereby it can be accomplished, instead of crying out in advance that it is impossible, that it cannot be done, simply because we do not know how to do it or have not the means now at hand? The history of medicine shows us that every important progress in our art has consisted in the accomplishment of that which but yesterday was declared impossible. It used to be supposed that conscious suffering was a necessary accompaniment of surgical operations; but Morton, Wells, and Simpson brought anesthesia to light and abolished pain in surgery. Not so long ago as to be beyond my memory, it was considered that "laudable pus" was not only unavoidable but desirable in the healing of wounds; but Lister showed the world that it was not necessary, and it is now looked upon as a deep and damning disgrace.

If Diphtheria Can Be Aborted, Why Not Other Diseases?

But, if the possibility of aborting disease be admitted as an abstract proposition, how about it as an actual fact? Are there not instances to prove that in some cases at least specific diseases are unquestionably aborted, and that by strictly therapeutic measures? As, for example, diphtheria by antitoxin? What better example than this of the abortion of a specific disease can be asked for? It must be admitted that no better example of a specific disease can be found than this. It corresponds at every point with the definition which has been given.

Only a few short years ago few persons were rash enough to advocate even the possibility of aborting it. Today the world accepts it as a fact beyond dispute, and the physician who fails to abort a case of diphtheria which comes under his care makes haste to explain that it did not come into his hands until it was too late, or that for some reason beyond his control he was unable to administer the proper dose of antitoxin at the proper time. It is true there are still a few persons who deny the utility of antitoxin, just as there are those who decry vaccination or who continue to hold that the earth is flat and the sun moves round it once in twenty-four hours.

If it be admitted that diphtheria can be aborted and if the commonly received theory of the action of antitoxin be accepted, is it not within the bounds of reason that there may be corresponding remedies for some of the other specific diseases, if not for all? That this supposition is true is shown by the eagerness with which the medical world has sought and is still seeking for just these things. It is also true that in no other disease has an antitoxin been discovered which is as positive and beneficent in its effect as is that for diphtheria; but this fact only serves as an incentive to more earnest effort on the part of scientific men and as a stimulus to scientific research from one end of the world to the other.

Once more, if this result has been obtained by antitoxin, which is, after all, only a natural product, is it not conceivable that similar results may be obtained by other means just as natural. And if it be admitted that medical treatment exerts any influence whatever upon the course of a disease, is it nor reasonable to suppose that this effect will be most marked during the formative stage, when it is not yet fully developed?

"Breaking Up" a Fever

To come down to specific instances, by what strict rule of science must it be declared an error to suppose that sweating may break up a fever or dissipate a local congestion? If we rightly understand the functions of the vasomotor nervous system and correctly estimate the role of vasomotor spasm and paralysis in the genesis of fever, is it not reasonable to suppose that means tending to restore the proper equilibrium to the circulation would have a tendency to dissipate the febrile paroxysms? And if the febrile condition is removed, is not the fever itself aborted, jugulated, broken up, cut short, made not to be?

Furthermore, what doctor in his practice does not strive, when he is called in the formative stage of a fever, to "break it up"? What one does not encourage the patient and his friends to hope that this result may be obtained? And, should he fail to bring it about, what medical attendant does not gently intimate to the patient's family that he might have succeeded had he been called a little earlier in the case?

Now the question is, Are the doctors frauds in this matter or do they build better than they know? Is not their practice better than their theory? Do they not, by their practice, confess that the doctrine of the jugulation of fevers is a reasonable one? Does it not, indeed, work well in practice?

If antitoxin can abort diphtheria after it has gotten fairly under way, and if it renders a healthy individual temporarily immune to the toxin of diphtheria, then why should it be considered an absurdity to suppose that it can act upon the disease in the stage of incubation? And, if antitoxin can do this, why not other agents? Even if no such agents are now known, may they not some time be discovered? And, if this possibility be admitted to be a reasonable one, why not search high and low for the means until they are found?

If mercury be a specific in syphilis, then why may it not act upon the disease in its incubative and formative stages, as well as after it has fully declared itself? Or, if not mercury, then some other remedy? Or why, if we were in possession of the proper remedy, might not the disease be aborted in the interval between the primary chancre and the secondary manifestations? If we possessed a specific in smallpox, why might we not expect to be able to abort the disease in the stage of incubation as well as to render the subject immune by vaccination or control the symptoms of the eruptive stage? If diphtheria can be aborted, why not pneumonia, typhoid and malarial fevers, gonorrhea, syphilis, rheumatism and consumption?

Should the answer to this last question be that we are not yet in possession of the proper remedies and means to enable us to accomplish these results, however much as we may desire to do so, I beg to remind you that it is but a few years since we had no organic extracts, no serum therapy, no intestinal antiseptics, no nuclein, and almost no alkaloids.

Would it not, then, be better to admit the possibility of improvement and then go to work with all our might to make the possibility a reality, instead of spending our time in crying out, "It is impossible, it is absurd, it can not be done"? a cry which has been uttered by every reactionary in the face of all progress since time began.

The Importance of Beginning Early

Coming now to the corollary, or deduction, of the importance of beginning early in the treatment of disease, we find nothing in it that is especially new, nothing to which most physicians will not readily agree.

The peculiarity of active-principle therapeutics in relation to this truth lies, not in its acceptance, but in the emphasis which is placed upon it. As to the fact, there is little difference of opinion among physicians. It remains for the disciples of dosimetry to insist upon its supreme importance and to urge its acceptance by the patient as an essential factor in the successful treatment of disease. He educates his patients systematically to send for their physician at the earliest indications of acute disease, and that not as a favor to the doctor but to benefit themselves.

From the doctor's own point of view, he will have more first calls, but fewer protracted sicknesses; more slight illnesses, but fewer fatal outcomes. The bills will be smaller in the individual cases but they will be sent in oftener and paid more promptly. And, surely, considered even from a financial standpoint, a live patient is worth more than a dead one. Hence such a course will be of advantage to the doctor as well as to the patient.

When the physician is called to a case of disease at the outset, he does not have to wait until he can make a positive diagnosis before he begins the treatment. He does not need to spend a week in watching the development of the malady, meanwhile making daily visits of inspection but lifting no hand in defense of the imperiled vital forces.

Instead of this it is his privilege to treat the diseased conditions as he finds them and as they are indicated by the earliest symptoms in the case. He knows how to treat the elementary conditions of disease, even before the causes are evident and before a complete diagnosis is possible. Knowing the rational indications for early treatment, he is often able to prevent the development of pathological lesions and to see the patient restored to health without ever knowing the name of his disease. To be sure, this is an inexcusable sin in the eyes of the pathologist and one on no account to be countenanced. But the patient and his friends are usually well satisfied, and as they are the ones who pay the bills and recommend the doctor he ought not to be the one to find fault.

You will remember that I told you last week that Burggraeve, the originator of dosimetric medicine, which was the original of modern active-principle therapeutics, states that "dosimetric medicine rests essentially upon its power to jugulate those fevers in which all acute maladies have their commencement. Its great end is to prevent anatomic-pathologic lesions, for these once established are beyond the resources of art."

This is only another way of stating the law which we have been considering; and you will readily see that the only way in which these results can be accomplished is by beginning early in the treatment of any disease. To sum up, then, we may include the essentials of active-principle therapy under the three following heads:

1. The materials, which are the active principles, in the main.
2. The method, which is the intensive method of dosage.
3. The object, which is the abortion of disease; and this leads to the resulting rule of action: Begin early.

On these three principles hang all the minor peculiarities of the system—of which I shall tell you more next week.

Hyoscine, Morphine, and Cactin in Obstetrics

A Record of Six Years' Experience

By **WILLIAM RITTENHOUSE, M. D., Chicago, Illinois**
Professor of Obstetrics, Bennett Medical College

SO often have I been asked for my opinion on the value and safety of the combination of hyoscine, morphine, and cactin in labor, that I have thought it might be worth while to put my experience before the readers of this journal.

For many years I had made a study of the subject of unnecessary suffering during childbirth, for it had always seemed to me a reproach to the medical profession that it gave so little attention to mitigating and shortening the agony endured by parturient women. If doctors were as indifferent to other kinds of pain as they are to the suffering endured by women in childbirth, they most assuredly would be severely criticized. A patient writhing in the agonies of sciatica or gastralgia gets sympathy and prompt relief. A woman in labor, enduring agonies just as cruel, is told to "be brave." Possibly this indifference to the suffering of childbirth is a corollary to the old superstition that those sufferings are a penalty for woman's part in the free distribution of apples at the great land-show in Eden many centuries ago.

However that may be, I have long felt that if I could help to arouse in the profession a greater interest in this subject I should not have lived in vain. So, for the last twenty years, I have studied this matter at the bedside, for books give little help. I have been successful to a greater degree than I had dared to hope for at the beginning; and this success has been partly in the way of shortening labor, and partly in relieving pain.

The subject of legitimately shortening labor will be taken up at some future time. In this paper I shall discuss only the relief of suffering; this object, in my opinion, being best obtained by the intelligent use of chloroform and the combination of hyoscine, morphine, and cactin.

A Case Where the Hyoscine-Morphine Did Great Work

About six years ago I had a case in which the suffering of the woman was extraordinary. She was a primipara, of Polish birth, 24 years of age, vigorous, and of muscular build. The external os was high up in the hollow of the sacrum and firmly bound there by adhesions. In consequence, dilatation was slow, in spite of the fact that the contractions were terrific both in force and resultant suffering. Fearing rupture of the uterus, I resolved to try the hyoscine and morphine combination, of which I had read, but which I had never used.

I proceeded to dissolve one tablet of standard strength—representing hyoscine hydrobromide, gr. 1-100; morphine hydrobromide, gr. 1-4; cactin, gr. 1-64—and administered it hypodermically. The result was striking. In twenty minutes the intensity of the contractions was somewhat moderated. The patient would sleep quietly between pains. During the pains she seemed to be in a mild delirium, muttering incoherently, but answering rationally when spoken to. This delirium perturbed me somewhat, and I must confess to some anxiety as to the outcome; but I saw no further untoward symptoms. Upon completion of the delivery, the woman immediately went to sleep, awaking after three hours and feeling well, and loud in her praises of the medicine that had helped her so much.

A Large Experience

Since then I have used the same remedy in more than three-hundred cases, and always with satisfaction. I soon learned, however, that the full dose is not generally necessary, and I now give half the above dose, and repeat, if necessary, which is seldom.

At the present time I use the remedy in more than eighty percent of my labor-cases; there are a few women who bear their pains so well that it does not seem necessary to use any anodyne.

The advantages following the employment of this remedy, as I have observed them, may be set down as follows:

1. The sum total of the parturient woman's suffering is greatly reduced, while the effectiveness of the contractions is not impaired. The testimony of the patients themselves, as to the great relief experienced, is no small factor in building up a physician's practice, inasmuch as they are sure to tell their friends.
2. If chloroform is needed at all, the amount required is very much less under the circumstances.
3. At the end of a protracted labor the exhaustion is much less. The patient will usually go to sleep for about two hours, then awake in good condition.

Occasionally I am asked whether I have found the use of this remedy to cause more frequent postpartum hemorrhage. I have not found this to be the case; on the contrary, I think its tendency is the other way. One of the greatest factors in the causation of postpartum hemorrhage is exhaustion; and, as exhaustion is less marked when this remedy is employed, I see no reason why hemorrhage should be feared. As a matter of fact, I have encountered fewer postpartum hemorrhages than formerly, whatever the explanation may be.

Asphyxia of the Child?

I have also heard the objection that the use of the hyoscine and morphine preparation has a tendency to produce asphyxia of the child; I never have lost an infant from this cause. However, in several instances where I have used the larger dose or where the mother was under the drug's influence for an unusual length of time, I have found it necessary to use insufflation to establish respiration, and I have also observed that the infant showed a tendency to sleep for the first day or two. But where I have used only the half-dose, I have met with no trouble whatever.

On the whole, then, I regard this remedy as a most valuable addition to the obstetrician's armamentarium. On the question of its safety I no longer have any doubts. If the dangers of its use were great, I certainly should have discovered the fact in my three hundred cases. If others have had untoward results, I should be inclined to inquire whether they have not been due to the use of unnecessarily large doses.

The Creed of True Success

To be honest; making money honestly or not at all.
To be fair; refusing to injure a competitor.
To be just; remembering that all must live.
To be kind; regarding employees as something more than an investment.
To be charitable; giving liberally for the upraising of humanity.
To be healthy; exercising as a duty.
To be sociable; having a side to friends not known to all.
To be lovable; being more to wife and family than mearly a means of support.
To be sympathetic; fearing littleness of soul more than littleness of fortune.
To be broad; accumulating resources higher than the material.
Above all, to be true, true to one's self, condoning nothing in self that you condemn in others.—David R. Forgan.

Some Sinusoidal Suggestions

A Résumé and Compilation

By HOMER CLARK BENNETT, M. D., Lima, Ohio

A SINUSOIDAL mode is an alternating mode, in which the alternations occur gradually, and practically without interruption. The potential in one direction begins at zero, with a gradual rise to the maximum, which is gradually overcome, till it falls to zero and is neutralized, and immediately is followed by a corresponding fall of potential in the opposite direction, which falls to the maximum, is gradually overcome, till it rises again to zero, and is neutralized.

These changes, when illustrated diagrammatically, follow the line of a sine curve, hence the name, sinusoidal.

It is rather difficult to appreciate this curve and get the idea of progression from a flat drawing; but, if you will wind a long wire in the form of a coil with equal convolutions and hold it so you can look through it endways and imagine something whirling round the turns away from your eye, it will convey the idea. Or, if you look through a rifle-barrel, you can get the idea of the whirl of the bullet as it passes through the barrel.

This mode was brought to notice simultaneously by two men, both physicists; namely, Kellogg, of America, and D'Arsonval, of Paris, and a great deal has been said and written in the past few years about the nature and action of this mode in therapeutics.

General Rules for Choosing Electric Modes

In choosing any special electric mode for the treatment of any given condition, the structure to be treated must suggest the mode to be used.

If the structure of the tissue is coarse (muscle, etc.), we should resort to the faradic mode, which contracts and relaxes muscle-fibers. If we wish to make an impression on the local nutrition of these parts, the galvanic would be the one to use. If we wish to alter (increase or diminish) the blood supply, we should apply the static. If we want to act on the vasomotor nerves or, in fact, on nerve-cells and nerve-fibers generally, some form of high-frequency should be selected. The high-frequency coil (uni- or bi-polar) is adapted to trophic perversions of nerves. For the skin (circulation and nerve supply), one should employ the resonator. For low blood pressure, use the insulation. For high blood pressure (as in renal troubles and arteriosclerosis), use the autocondensation. As a metabolic alterant, locally and constitutionally, use the static cage (autoinduction), the diasolenic zone, the magnetone or the wave generator. For paralysis or atony of the involuntary muscles or for any sluggish glandular condition, the sinusoidal is the mode to be preferred.

The general rule is: the coarser the structure, the coarser the mode to be used; the finer the structure, the finer the mode.

The mode derived from *the secondary winding* of an induction coil is alternating, but the positive and negative phases of the alternation differ much in the electromotive force, and the gradations from the neutral, or zero, to the high and the low potential is irregular and far from uniform; while the variation in potential in the sinusoidal mode is smooth, regular, and uniform.

The secondary, induced (faradic) may be likened to the swing of the pendulum of a clock, which goes fastest when near the center of the arc and slowest when farthest away, and there is a point in the swing of the pendulum where it stops on either side. This stop makes an interruption in the secondary mode, and the time of this stop is greater than the time of the passage of the mode. It is at this dead point in the swing where we get the jerk, which hurts.

The Sinusoidal Mode Explained

The sinusoidal mode may be likened to the same pendulum being swung entirely around, in a complete circle, back to the starting point, thus obviating the stop, or dead point, and making the flow smooth. It is thus that the sinusoidal differs radically from the secondary, induced mode in its physical properties; and it is therefore that we have a difference in the physiological and therapeutic effects.

The "magneto" machines of our boyhood-days' memory gave a rough sinusoidal effect, and the later generators were only improvements of it. The commercial lighting dynamos also furnish a mode which is still more or less roughly sinusoidal, and may be used by those having access to it and have some apparatus for modifying its strength and voltage. As the speeds of these dynamos, while in action, are quite uniform, the number of alternations does not vary much, and so the operator must content himself with the one rate of frequency; and, while it is useful in some conditions, it is worthless in others.

It is convenient and often desirable to have a generator that will deliver a mode of variable frequency, so as to adapt it to all cases. This is possible in one form of apparatus, which will be described more in detail further on.

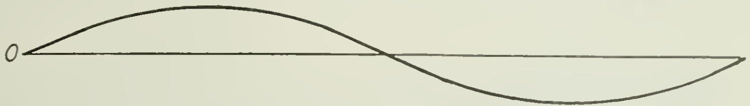

Fig. 1. Curve of Sine Wave

The drawing shown in Figure I shows the curve of a sine wave as it makes one complete circle, or cycle, the rise being slow and gradual and the fall the same, then going to the other extreme and back again to the level. In this the range of potential is from the crest of the wave to the bottom of the trough.

The drawing shown in the Figure 2 will illustrate the curve of the common induced (faradic) mode, the rise being abrupt and the fall irregular, and the recession being unequal.

The sinusoidal mode will cause powerful, tonic, painless muscular contractions, both in voluntary and involuntary fibers, while the faradic will be harsh and disagreeable.

It is on account of this smoothness of the sinusoidal mode that it has its peculiar action on the motor and sensory nerves. The sensory and motor mechanism of the body is capable of adjusting itself to a considerable range of difference in external conditions without serious disturbance or discomfort, providing the change is not too sudden or violent. Even though there may be many periods of alternation of the mode per second, and the electromotive force be high, yet the nerves and muscles will respond to the stimulus of such vibrations without disagreeable reactions, providing the change in strength is gradual.

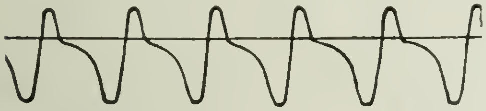

Fig. 2. Curve of Common Induced Mode

The number of cycles per second, the voltage, and the quality of the mode are most important in determining the therapeutic effects of this mode, but most important is the feature of the uniformity of range. This uniformity will lessen the disagreeable effects of electric excitations both on the motor and the sensory mechanism of the body.

We may arouse just as much muscular action with this mode as by any other means, with no bad effects, such as pain, fear, fatigue or exhaustion. This is the great advantage which the sinusoidal possesses over all other modes. Heavy doses, causing powerful muscle contraction, both voluntary and involuntary, and without pain, may be given with the sinusoidal mode; and the slower cycles have been proven of special value in treatment of paralysis of the bladder, uterus and intestines, and in atony of the hollow organs, stomach, bladder, and so on.

When we consider how many of the normal processes of the body—such as assimilation, circulation, secretion, excretion, locomotion—depend directly upon muscular tone and vigor, we see what a wide range of therapeutic applications and usefulness is at our command, in the sinusoidal mode, in the field of muscle stimulation alone.

General muscular weakness, local paralysis or paresis, lack of peristalsis, vaginal, rectal and vesical prolapse, due wholly or partly to lack of muscle tone, and vasomotor debility are conditions in which the sinusoidal has been most decidedly beneficial.

Aside from the features mentioned, this mode will allay pain, and is more serviceable in this way than the secondary, induced mode from a coil of many turns. It is most useful in painful pelvic troubles, including uterine inflammation, cellulitis, ovaritis, salpingitis, and congestion; neuralgic pains are relieved and spinal irritations are subdued by it; marked effects on tissue metabolism are manifest, and it causes increased oxidation and elimination of carbon dioxide and the excretion of urea. These effects are probably all secondary to, and dependent on, the increased muscular activity and analgesic influence due to the mode.

The slow sinusoidal mode is very useful in atonic conditions of the pelvic viscera, such as is so often found in old men, who cannot control the action of the bladder; also in those cases where the rectum is never entirely emptied, and in old chronic cases of prolapsus, and in subinvolution of the uterus. A few systematic treatments locally will pull these organs back into place and get them to working properly, and many vague, indefinite and annoying symptoms will sometimes clear up and disappear as if by magic.

An Improved Sinusoidal Generator

The manner of employing the various applications will at once suggest itself to the experienced electrotherapeutist and so will not be mentioned now, but we will study a new apparatus, which is a most valuable addition to our armamentarium, in that it gives a wide range of strengths and number of cycles, and is not a controller but a generator. The general practician or the specialist who is looking for an exact means of applying galvanic and sinusoidal modes together or separately will find this a superior apparatus. (Fig. 3.)

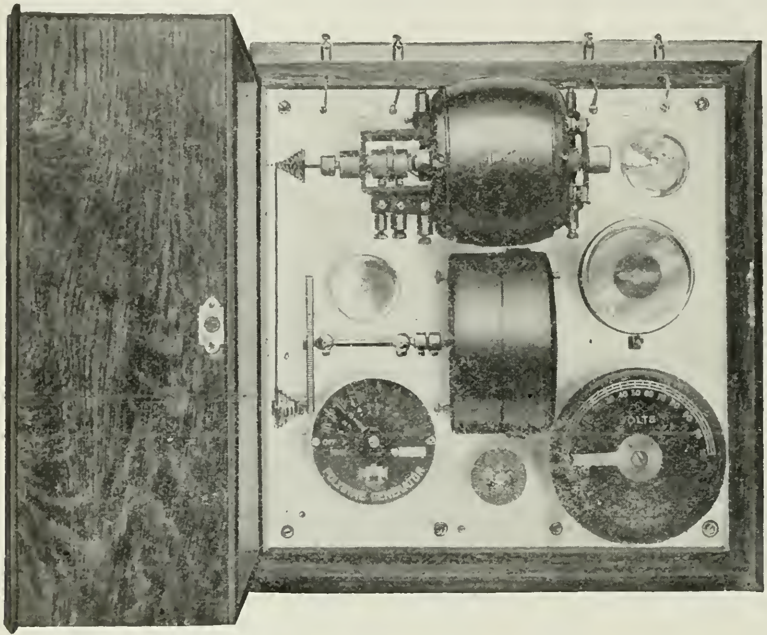

Fig. 3. Improved Sinusoidal Apparatus

It contains both a motor and a rotor generator which is under easy control alike as to speed and strength. The following drawings and explanations will be found simple and easily understood, and will give a complete understanding of the method of generation and control, at the same time conveying to the mind the difference between the various forms of the mode, from the simple to the most complex.

This apparatus fulfils all indications for application of the sinusoidal mode in a highly satisfactory manner. It supplies a slow sine wave ranging from 12 to 120 cycles per minute; a rapid sine wave of 1800 per minute; a superimposed wave consisting of the 1800-cycle rapid wave imposed upon a slow wave; a surging sinusoidal, somewhat similar in character to the former; a slow surging galvanic; a rapid surging galvanic; a combined galvanic and sinusoidal; and a mode for diagnostic lamps.

The slow sinusoidal mode is produced by revolving a pair of brushes against a wire resistance unit in the rotor, with a minimum of friction and wearing parts, thus obtaining a sine wave of geometrical exactness. The length of the sine wave, or, in other words, the frequency of alternation, may be varied from 12 to 120 per minute by shifting the belt into various grooves on the cone pulleys.

The supply mode which operates the apparatus drives a rotary converter with a double-wound armature which generates a direct mode of 125 volts and an alternating mode of 85 volts, 30 cycles, which are both "earth-free," or ungrounded, hence applicable in hydrotherapeutic work.

All modes obtained from this apparatus are controlled by means of the dial selector, which shows the name of each mode and the frequency plainly indicated on the dial. A single turn of the knob to the mode desired places the rotary converter in action and selects the proper modality. This feature makes the operation of this apparatus far simpler than some other sinusoidal machines, with their complicated array of switches.

The tension is regulated independently of the wave length or frequency by means of the rheostat, which places the strength absolutely at the command of the operator. The milliamperemeter, condensed type with shunt, scales reading 0—150 and 0—30, registers the oscillations of the sinusoidal mode, but not the milliamperage. It also measures the approximate strength of the undulations of the surging galvanic as well as registering accurately the dosage of the straight galvanic.

All the parts described are mounted on a white porcelained steel base, which always looks bright and clean and can be made thoroughly aseptic. The apparatus is encased in a cabinet of polished, quarter-sawed, golden oak, measuring 19 inches square and 10 1-2 inches deep; the cover being fitted with beveled plate glass. The apparatus is equally adapted to be placed horizontally as a table-plate, and, if desired, can be placed on any small portable stand, thus making it available for use in several different rooms; or it may be attached to the wall in a vertical position, the oil-cups of the rotary converter being set at an angle so that they feed perfectly in either position.

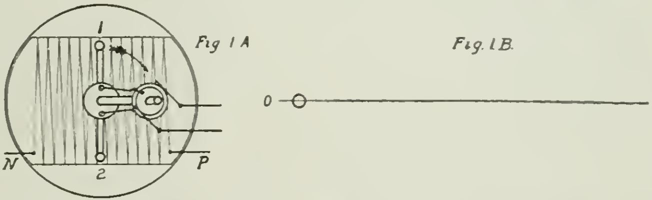

Fig. 4

The rotary converter is wound for the direct mode, which is required for operation of the apparatus. By installing a rectifier, the apparatus may be employed with the same satisfaction with the alternating mode as with the direct; the expense for maintenance being limited to new chemicals for the rectifier, and which rarely exceeds 75 cents per year.

The generator forms an ideal equipment for sanitariums and hydrotherapeutic institutions, as it is free from ground connection, and therefore is suitable for electric-bath application with the ordinary uninsulated tub.

Principle of Operation of the Rotor

The rotor mechanism consists of a porcelain base wound closely with high-grade resistance wire, against the surface of which revolve two carbon brushes attached to the rotor-arms. On the rotor-shaft is a pair of collecting rings connected with the brushes on rotor-arms, while two additional brushes make contact with the rings. These four carbon brushes are the only parts of the rotor needing replacement. The brushes attached to the rotor-arm revolve against a smooth surface of wire resistance, producing practically no friction; as they travel in a circular path the graduations of resistance merge together perfectly in the form of a sine curve of geometrical exactness.

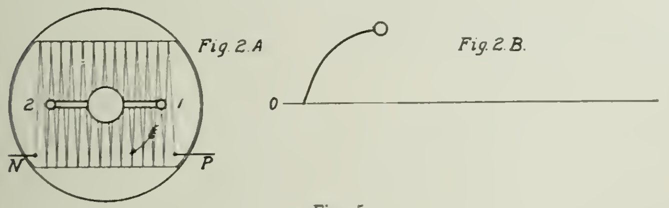

Fig. 5

By an ingenious gearing device the speed of the rotor may be reduced to as low as twelve revolutions per minute. The cone pulley on the rotary converter, which operates at 1800 per minute, is belted to a cone pulley with pinion engaging the toothed wheel on the rotor-shaft. When the belt occupies the grooves at the extreme left the slowest speed of the rotor is attained. By shifting the belt to the right the speed may be graded up to as high as 120 per minute, giving a corresponding frequency of alternation of the sine wave obtained from the rotor.

In Figure 1-A we note the working parts of the rotor showing the resistance unit with convolutions of wire shown vertically, while the collecting rings on the rotor-shaft appear at the right. The rotor-arm is shown with brushes resting on one convolution of wire, no mode passing to the brushes at this point, hence the cut at the right, Figure 1-B shows the neutral line with no voltage. [See Fig. 4.]

As the rotor-arm begins to turn clockwise and the brushes leave the neutral strand of wire, the entire resistance of the rotor is in a circuit with the patient; but as it continues to revolve, the strands of wire are cut out of the circuit, one at a time; while the voltage gradually rises, as shown in Figure 2-B, until brush No. 2 reaches a position at the extreme left and brush No. 1 a place at the right, as in Figure 2-A; at which point the resistance has all been eliminated from the circuit and the voltage reaches a peak of the sine curve in Figure 2-B, where the full voltage is being delivered to the brushes. [Fig. 5.]

As the rotor-arm continues to turn, the convolutions of wire are once more brought into circuit gradually, while the voltage begins to recede to the zero line, as shown in Figure 3-B, until brush No. 2 reaches the upper position and brush No. 1 the lower place, as shown in Figure 3-A; both brushes touching the neutral strand of wire with no mode passing; at which position the neutral line in Figure 3-B is again reached and the voltage is at zero. One-half the cycle has now been completed. [See Fig. 6.]

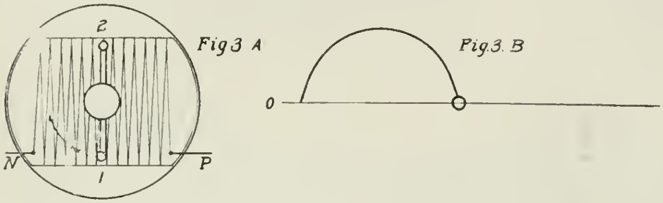

Fig. 6

The rotor-arm continuing its revolution, brush No. 1 enters the negative side of the resistance unit and the voltage commences to increase in the opposite direction until the peak of the lower sine wave is reached, as shown in Figure 4-B, at which point brush No. 2 is at the extreme right and brush No. 1 at the left, as shown in Figure 4-A. [Fig.7.]

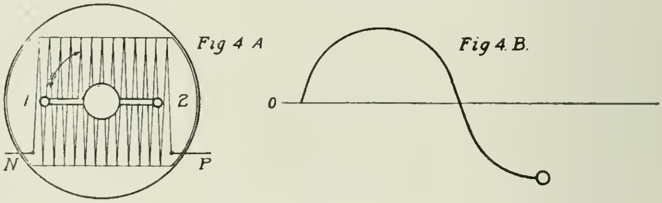

Fig. 7

When the brushes complete their revolution and finally arrive at their original position, with brush No. 1 above and brush No. 2 below, as in Figure 5-A, the entire cycle of one sine wave has been completed, as shown in Figure 5-B. [Fig. 8.]

The Various Modalities at Command

Figure 9. Rapid sinusoidal, 1800 cycles per minute.

The 85 volts, 1800-cycles, alternating mode may be applied as a rapid sinusoidal, controlling it by means of the rheostat, but without passing it through the rotor. The wave form of this mode is indicated in the figure marked 9. In all cases where the extremely rapid sinusoidal is indicated this modality will be found of great value.

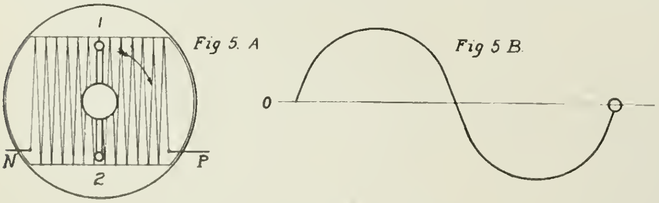

Fig. 8

Figure 10. Slow sinusoidal, 12 to 120 cycles per minute.

By passing the direct mode through the rotor a slow sinusoidal current is obtained, having a sine curve of absolute exactness. The frequency is variable from 12 to 120 cycles per minute by changing the position of the belt on the driving pulleys. The voltage may be regulated independently of the frequency by means of the rheostat. A change in the frequency, by shifting the belt, does not affect the strength of mode which the patient receives. The milliamperemeter does not measure the sinusoidal action, but it shows the frequency of oscillations—a valuable aid.

Figure 11. Surging sinusoidal action, 12 to 120 periods per minute.

When the dial selector is placed at "3," the 85-volt alternating mode of 1800 cycles per minute is sent through the rotor and the short, rapid sine waves of the initial mode are delivered by the rotor in the form of a surging sinusoidal, each long sine consisting of a group of shorter waves, which rise gradually to the full potential and recede, in the effect of a crescendo and diminuendo. With this wave form it is possible to obtain cell stimulation by means of the minute contractions, as well as taking advantage of the tonic properties of the long waves. The ratio of short to long waves is 150 to 1 at the lowest speed, and may be varied by shifting the belt.

Figure 12. Superimposed wave, 12 to 120 periods per minute.

By placing the dial selector at "4," a connection is made with the neutral pole of the rotary converter and a surging direct mode of 1800 periods per minute is obtained and passed through the rotor, thus producing the superimposed wave shown in Figure 1. This mode partakes of some of the characteristics of the surging sinusoidal shown above, with the exception that a more distinct polar effect is noticed, as a change of alternation can be distinctly felt.

Figure 13. Combined galvanic and sinusoidal, 1800 cycles per minute.

By combining the 110-volt direct mode from the supply wires with the 85-volt alternating mode obtained from the collecting rings of the rotary converter, a combined galvanic and sinusoidal is produced, as shown above, by placing the dial selector at "5." This mode partakes of the chemical properties of the galvanic with the highly stimulating effects of the sinusoidal. The frequency of the sinusoidal is 1800 per minute and is not variable. This is the only mode obtained from the generator which is grounded, hence it is not suitable for use in hydrotherapeutic work, excepting in a specially insulated bathtub adapted to the purpose.

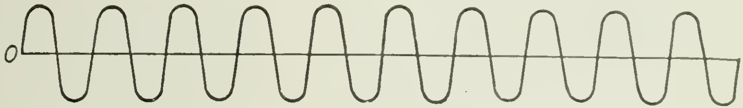

Fig. 9

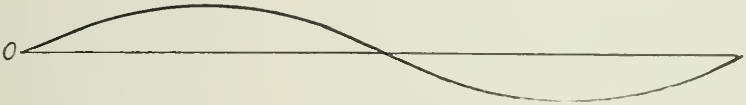

Fig. 10

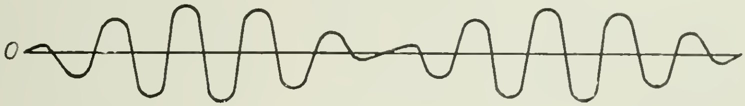

Fig. 11

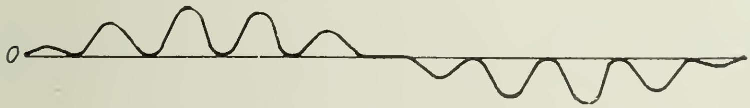

Fig. 12

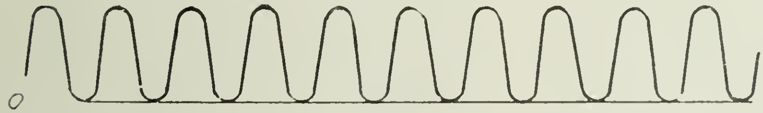

Fig. 13

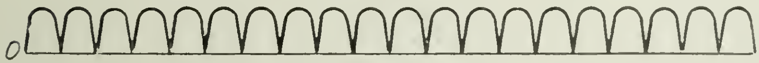

Fig. 14

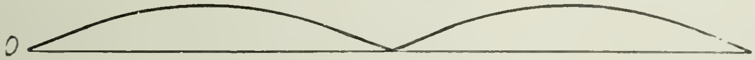

Fig. 15

Figure 14. Rapid surging galvanic, 1800 periods per minute.

The mode obtained by tapping the neutral pole of the rotary converter when passed directly through the rheostat produces a wave form as illustrated in Figure 14. This produces a rapid surging galvanic mode of 1800 periods per minute, which is not variable. This is perfectly controlled by the rheostat, while the meter shows the average length of the undulations. This mode partakes of practically the same properties as the rapidly interrupted galvanic obtained from the rheotome on a wall-plate, but is much more uniform in character.

By passing the 125-volt direct mode from the rotary converter through the rotor, a slow surging mode, as shown in Figure No. 15, may be obtained. This possesses the wave form of the upper half of the slow sinusoidal cycle, but combines with it the polar properties of the galvanic. The frequency of this mode may be varied by changing the belt, while the strength is controlled independently by the rheostat, and the meter shows the average length of the undulations.

The 125-volt direct mode from the rotary converter may be passed directly through the rheostat when the dial selector is placed at "8," hence a galvanic mode is made available, which is accurately measured by the meter and indicated by the pole changer.

This same galvanic mode may be used to light diagnostic lamps by placing the dial selector at button "9," when the meter is excluded from the circuit, enabling one to employ almost any kind of electrically lighted instrument, controlling the light perfectly without danger of burning out.

When the dial selector is placed at "10," the alternating mode from the collecting rings of the rotary converter is made available at a special pair of binding-posts marked "A. C." Parties having only a direct mode in their office will find it convenient to utilize the rotary converter as a transformer for the operation of any alternating-mode apparatus within the capacity of this part of the apparatus. An alternating-mode cautery can be very satisfactorily energized in this manner.

The Principles of Bacterin Therapy

By J. FAVIL BIEHN, M. D., Chicago, Illinois

SUCCESS in the application of bacterins by the clinician is possible only when he understands all the principles involved. The essential idea underlying this mode of treatment is that, by injecting antigens (toxins or bacterial bodies) into healthy tissue, we stimulate that tissue to produce amboceptors (antibodies, antitoxins, opsonins, etc.), which then will be carried in the circulation to the diseased tissue, thereby promoting recovery.

The Theory of Active and Passive Immunity

Bacteria contain toxins, and when these are injected the patient produces his own antitoxins. There also are produced by other antibodies, such as opsonins, precipitins, agglutinins, etc. Thus the patient provides his own immunity. It is, therefore, an active immunity; and, being the result of the injection of bacterins, it is not natural, but acquired. So bacterins produce an active acquired immunity which lasts in many cases for years.

This state is in contradistinction from the conditions established by the injection of antitoxin (antibodies produced in some other animal by the injection of toxins), which results in passive immunity. This also is an acquired state, and is known as passive acquired immunity; the patient being the passive recipient of preformed antibodies that neutralize, destroy or render harmless the toxins of the corresponding bacteria. Passive immunity lasts only a few months at most.

Bacterins, therefore, call upon the patient to produce his own antibodies, to make his own antitoxins. Antitoxic serums do not impose any such labor upon him, as he is simply the passive recipient of preformed neutralizing substances that have been actively produced by some other animal.

Antitoxins (serums) neutralize the corresponding toxins, and we can infer that their action begins immediately after they come in contact with these toxins.

Bacterins, however, stimulate the tissues, and, if the patient is capable of responding, antibodies are produced that can readily be demonstrated in his serum, which then is practically an antitoxin.

Some time is required for the production of these antibodies by the patient, and during that interval there is no neutralizing action. Then, too, the first antibodies formed are consumed in neutralizing the injected bacterins. Following this, there is normally an overproduction of these antibodies, which then appear in the serum.

From this we can see that one of the prime requisites in bacterin therapy is, that the patient must possess sufficient healthy tissue capable of producing antibodies when stimulated, and that he must also be capable of withstanding additional antigen and of successfully resisting the disease until he has produced antibodies in excess. For these reasons it is essential that bacterins be employed early in the disease, while the patient can still respond, and not—as too many, unfortunately, are inclined to do—as a last resort after all other medication has failed.

But to be assured of success, other remedial measures must also be instituted; namely:

1. General measures, those looking toward advancing the entire well-being of the patient; that is, correcting existing pathological conditions or functional aberrations other than those due to the infection. These must always receive careful attention, especially must the elimination, circulation, and so on, be carefully supervised. Bacterins cannot be expected to produce a cure in patients whose vital forces are taxed to the utmost in combating the toxic materials absorbed from a fermenting and putrefying mass of food-residue in the intestine.

2. In addition, there are certain particular procedures that will aid bacterin treatment. These might be called adjuncts. They will, many times, promote recovery, when, without them, in the majority of instances failures will result.

I mean, first, surgical procedures, such as the evacuation of abscesses, the removal of sequestra, of foreign bodies, and so on. Next I refer to efforts for increasing the lymphatic circulation by the administration of citrates or acetates, either as such or in the form of citrous fruits, as originally suggested by Wright. It is probable that the lymph possesses antibodies in the highest degree. Further, there is the application of hot wet-packs (Bier's hyperemic treatment), to increase local circulation in the diseased areas, especially in the skin, where the circulation is poor. Other local treatments or applications are not contraindicated. It is also advisable to administer nuclein in large doses, in order to increase the number of leukocytes; for it can readily be understood that, notwithstanding there is an increased amount of opsonins as a result of the injection of bacterins, the bacteria must be phagocyted and destroyed even after they are opsonized. Thus many failures occur due to a lack of active leukocytes. Therefore it is necessary in most cases to give nuclein, to stimulate, as already stated, the production of leukocytes in order to phagocyte the bacteria.

Indications for Bacterin Treatment

The corresponding bacterins are indicated in all bacterial infectious diseases; but, since the bacterins have a specific action only, it is absolutely essential to know the particular organism or organisms causing the disease under treatment and to give the corresponding bacterins. Thus, for instance, bacillus-coli bacterins are of value only in diseases caused by the bacillus coli; they are practically valueless in diseases caused by other organisms. Hence, there are no bacterins for such ailments as boils, furuncles, and the like, for these conditions are not always produced by the same organism or group of organisms. In one case streptococci, in another case staphylococci (either albi or aurei) may be the etiolgical cause. The first form will be benefited only by the bacterins containing streptococci, while the second responds only to one containing staphylococcus albus, etc. However, a mixed bacterin may be employed, and will prove beneficial, provided it contains the specific organisms responsible for this particular diseased condition.

Therefore, unless the exact etiologic cause is determined and the corresponding bacterins are administered, failure will surely result. It is quite necessary, in case several pathogenic bacteria are acting together in producing a disease, that the corresponding bacterins for all of them be utilized; and, further, if the infection should change as a result of the invasion of other organisms, unless a bacterin for these organisms also is used, a complete cure may not be obtained.

Contraindications and Dangers

Practically, bacterins are contraindicated only in the cases of such patients as are not capable of reacting to an additional amount of bacterial substances—patients who are overwhelmed and, hence, are not capable of setting up in themselves an active immunity. Under these circumstances, the antitoxic serums, if available, should be employed.

The dangers associated with bacterin-therapy, and to be remembered, are as follows:

1. Dangers dependent upon the operation, or injection, itself; namely, the danger of infection. The injection of bacterins requires greater care than does the ordinary hypodermic injection. The syringe must be absolutely sterile, and the site of injection should be thoroughly disinfected, preferably by means of tincture of iodine or an iodine solution devised for that purpose.
2. The danger of overwhelming the patient with additional toxic bodies, as referred to under contraindications.
3. The production of severe constitutional reactions. This can usually be prevented by proper dosage, as discussed under that heading.
4. Anaphylaxis, a complication which, while fortunately very rare, nevertheless does occur and always must be considered as a possibility. To avoid this state, the second injection is to be within ten days; the period between the first two injections being, preferably, not more than seven days, thereby preventing a sensitizing of the patient.

Dosage, and Other Details

The dose varies with every patient, depending upon his vital resistance, irrespective of what infectious disease he may have. The first dose is a guide. Always begin with a relatively small dose. If there is no improvement, then either increase the dose or repeat at short intervals, or both, but only if the clinical reaction produced is slight. If the reaction is severe—high fever, greatly aggravated local or general symptoms, with marked depression—then decrease the dose or increase the interval between doses, or both. A marked clinical reaction is always to be avoided.

In acute cases, the dose should be small and frequently repeated, usually every two or four days, or oftener. In chronic cases, larger doses may be given, and every four to seven days. This rule does not hold, however, for any considerable number of cases, and must be varied according to indications.

Site of Inoculation

Bacterins usually are given subcutaneously, although some prefer to inject deep into the muscles, thereby avoiding a skin reaction, the muscles being much less sensitive than the superficial tissue; but the strictest asepsis is demanded, owing to the danger of producing deep-seated abscesses. Intramuscular injections are best given into the supraspinatus muscle on the left side or in the gluteal region. Subcutaneous injections may be given in any part of the body where there is loose subcutaneous cellular tissue.

No special subsequent treatment is required. A feeling of lassitude, usually occurring within twenty-four hours after the injection, requires no special treatment. A saline laxative on the morning following the injection generally will correct this condition.

Control, at present, must depend upon the clinical symptoms. The determination of the opsonic index is not necessary, and for several reasons is not practicable. First, the present method of determining the opsonic index is very unreliable; results vary so greatly that its value is questionable. Second, the opsonic index is at best only a rough indication of the degree of immunity. Opsonins are not the only antibodies produced, and may or may not have anything to do with the immunity. Some day the opsonic index may, under improved methods, be practicable and of value, but at present clinical signs and symptoms are a more reliable guide.

The negative phase immediately following the injection of bacterins does not correspond to the period of clinical reaction, but precedes it by several hours. For all practical purposes, however, the negative phase may be entirely ignored.

Stock-bacterins generally give satisfactory results. If they do not, it is because the appropriate bacterin is not used, that is, the etiologic cause of the infectious disease has not been recognized and the corresponding bacterin injected; or the stock-bacterin used was not a polyvalent bacterin containing the particular strain of the microorganism causing the infection. A good polyvalent stock-bacterin properly employed will fail but very rarely.

If autogenous bacterins are required, they should be prepared by an expert bacteriologist, preferably in a laboratory under Government supervision. Only in this manner can one be reasonably sure of avoiding serious dangers and complications.

Some of These Days

By FRANK L. STANTON

SOME of these days all the skies will be brighter;
Some of these days all the burdens will be lighter;
Hearts will be happier, souls will be whiter,
Some of these days!

Some of these days, in the deserts upspringing,
Fountains shall flash while the joy bells are ringing;
And the world—with its sweetest of birds—shall go singing
Some of these days!

Some of these days! Let us bear with our sorrow!
Faith in the future—its light we may borrow;
There will be joy in the golden tomorrow—
Some of these days.

THERAPEUTIC NOTES

ATROPINE TO RELIEVE IODISM

Atropine will relieve the symptoms of iodism in a way which the uninitiated patient considers marvelous. It is perhaps the only actual instance of a "cold" cured in an hour. (*St. Louis Medical Review*, November, 1912).

GELSEMIUM IN PELLAGRA

Dr. Roy Blosser reports five cases of pellagra (*Atlanta Journal-Record of Medicine*, November, 1912) in which symptoms of nervous irritation were relieved promptly by gelsemium. Two of the patients had complained of pain or burning in the feet, in two cases the gastric distress was annoying, in another one frequent micturition. All these symptoms yielded to the drug. Gelseminine would be the most satisfactory form for administering this drug.

THE TREATMENT OF ACUTE ARTICULAR RHEUMATISM

French physicians still persist in believing that the salicylates are the most effective means of treating rheumatic affections. In a paper published in the *Gaz. des Prat.*, 1912 (Cf. *British Medical Journal*, March, 1912), Dr. Lemoine recommends the use of sodium salicylate as a gargle, on the supposition that inflammation of the throat is one of the earliest symptoms of rheumatism. For this purpose, he dissolved 20 Grams of sodium salicylate in 1000 Grams of water.

For internal use, he prescribes sodium salicylate, 0.60 Gram; sodium bicarbonate, 0.40 Gram. Or, sodium salicylate, 10 Grams; syrup of currants, 80 Grams; water, 70 Grams. This should be given both during the day and night, so that an adult patient receives from 6 to 8 Grams in twenty-four hours, unless the drug is not well borne.

The salicylate of sodium is contraindicated if nephritis exists and if the urine contains casts. It should also be omitted in myocarditis and if the pulse is irregular; but if the endocardium or pericardium are implicated the salicylate may be given. Cases associated with delirium and other signs of cerebral excitement contraindicate the salicylates, and pregnancy calls for caution in their employment.

LACTIC-ACID BACILLI IN LOCAL TREATMENT

Pouliot (*Revue Prat. d'Obstétrique et de Gynécologie*, Sept., 1912, p. 257) observes that the vogue of lactic-acid bacilli in treatment and prophylaxis of intestinal troubles seems to be waning. This method of internal treatment long continued is said to lead to demineralization of the organism and hence to invite tuberculosis. On the other hand, lactic-acid bacilli in local application seems to be acquiring more and more of a footing in gynecology and obstetrics.

The Bulgarian bacillus produces the largest amounts of lactic acid. Other strains average only 10 Grams to the liter of milk, while the Bulgarian strain produces up to 32 Grams. In local applications they rapidly clear off gangrenous and ulcerative patches, when healing proceeds smoothly. Pouliot regards the method as having a wide field of effectual action in accessible gynecologic and obstetric lesions. (*Jour. A. M. A.*, Nov. 9, 1912, p. 1751.)

EXTERMINATING LICE IN WOMAN PATIENTS

Whitfield (*Lancet*, Dec. 14, 1912) recommends steeping the hair for ten minutes in a 1:400 phenol solution, taking care to see that the nape of the neck and the hair over the ears are well soaked. The patient lies on her back with the head hanging over the edge of the bed, the hair in a basin. After ten minutes the hair is wrapped, without drying, in a towl for an hour.

THE ODOR OF CARCINOMA

Dr. J. R. McClintock, of Kansas City, Missouri, writes us that he has the best success in getting rid of the terrible odor of cancerous ulcers by injecting into the mass one or two syringefuls of a weak solution of carbolic acid containing ten to twenty minims to the ounce. He finds this same solution a desirable local application in diphtheria and in septic conditions generally. Internally he uses it in the treatment of diarrhea and during continued fevers, while a stronger solution is used for injection into buboes and carbuncles.

USE THE RIFLE!

Should you ever find your faith in drugs wavering, lay down the hard-worked shotgun and use the rifle for a change. Nine times out of ten the nihilist doesn't know the formula of the mixtures he prescribes. (*St. Louis Medical Review*, November, 1912.)

CALCIUM SULPHIDE IN DIPHTHERIA

Calcium sulphide, which already twenty-five years ago was prescribed by the French dosimetric school as a remedy for diphtheria (*Compendium de Médécine Dosimétrique*, 1886, p. 238) has recently been reintroduced for this purpose by E. L. Abogado (*Cronica Medica Mexicana*, and *Merck's Report*). Mild attacks were cured by the sole use of the sulphide, while in grave cases it has proved a valuable adjuvant to the antitoxin treatment. It is not improbable that in cases of complication its efficacy may extend to the associated microbes, with respect to which antitoxin is powerless.

Abogado administers to children up to 1 year old 0.01 Gm. (gr. 1-6) per hour; those 1 to 3 years old are given 0.01 Gm. (gr. 1-6) every half hour; children 3 to 5 years old may be given 0.01 Gm. (gr. 1-6) every quarter hour; children above this age, 0.01 to 0.02 Gm. (gr. 1-6 to gr. 1-3) every quarter hour. Adults may be allowed to take 0.6 Gm. (grs. 10) within twenty-four hours. In the opinion of this writer the preparation does not, if prescribed in this manner, give rise to any unpleasant secondary effects.

AUTOGENOUS BACTERINS

D. J. Glomset (*Iowa Medical Journal*, November, 1912) says that autogenous vaccines, from a theoretical point at least, are of value only when the cells are not producing their maximum amount of immune bodies, while the value of these vaccines depends on the production of an active immunity, and for that reason some time is always necessary for the establishment of a cure.

In examining the recent literature, it at once becomes apparent that autogenous vaccines have been employed against a great variety of widely differing troubles. The author calls attention to the fact that autogenous vaccines share the fate of other new remedies, of being used by enthusiastic practitioners against almost any disease they have been dealing with, and of being used indiscriminately and without any attention to proper indications and limitations. The results of such procedure can be foreseen, and they have served to postpone the proper appreciation of this mode of treatment.

For the purpose of determining the indications and contraindications for bacterin-therapy, the author groups the various diseases in three classes:

Class 1 includes such diseases as true septicemia, ulcerative endocarditis, general peritonitis, and eczema, all of which, with the exception of the last one, are characterized by a profound toxemia, and on account of which he considers vaccine-therapy to be contraindicated.

In class 2 the author includes such diseases as pyemia, erysipelas, vulvovaginitis, chronic otitis media, impetigo, osteomyelitis, empyema, cholecystitis, ulcerative colitis, streptococcic infection in scarlet-fever, and mixed infection in advanced tuberculosis. These diseases may under certain conditions be treated very successfully with autogenous vaccines, but they include many acute infectious conditions which have a tendency to spontaneous recovery or yield readily to other forms of treatment. For this reason it is difficult to determine the actual results obtained from administration of vaccines.

Nevertheless, in chronic vulvovaginitis of children the author sees a type of disease in which autogenous vaccines are distinctly indicated, and in otitis media, also, excellent results have been obtained in the subacute stages. In streptococcus complication of scarlet-fever, the results are doubtful, according to the author, in the acute condition, but distinctly favorable in the chronic.

Class 3 contains such affections as furunculosis, carbuncles, acne vulgaris, pyorrhea alveolaris, gonorrheal arthritis, some forms of osteomyelitis, mastoiditis, coccogenous sycosis, and certain chronic types of impetigo, as well as pyelitis and cystitis. In this class autogenous vaccines are not only indicated, but they are the treatment of choice in most instances.

Most of the diseases coming under this group are more or less localized chronic or semichronic suppurative, and it is indeed in these chronic granulomatous conditions that the treatment yields such brilliant results. Carbuncles and boils which have stubbornly resisted any other kind of treatment fairly melt away after the second dose of a vaccine. Acne vulgaris, too, frequently responds in a truly marvelous way to the acquired immunity produced by the vaccines. In this disease, however, the treatment must be continued for weeks in order to prevent possible recurrence.

The most stubborn instances of gonorrheal arthritis often respond in a striking way to the treatment with vaccines. This is also the case with pyorrhea alveolaris, which is the most unsatisfactory disease dentists have to treat. The author has seen a number of cases of this disease where rapid and permanent recovery occurred. In case of a deep-seated coccogenous sycosis, too, prompt and complete recovery follows the use of vaccine. He has also been told that vaccines are being employed against the ringworm type. Finally, cases of impetigo which resist any other treatment yield rapidly, as a rule, to autogenous vaccines.

ARE BACTERINS DANGEROUS?

D. J. Glomset (*Iowa Medical Journal*, November, 1912) says that the reaction following the injection of a first dose of bacterins may be from nothing to a condition simulating shock. It differs with the dose given and the susceptibility of the individual. So far as the author is aware, no fatal results have followed the injection of the vaccine, and if the dose is proximate to the resisting power of the individual, a local redness and slight tenderness is all that appears after three or four hours; this lasting from twenty-four to forty-eight hours. This reaction often is followed by a sense of wellbeing and comfort, which is associated with the first improvement in the disease. On the other hand, if the dose is too large, the slight local redness changes into a marked swelling of the extremity, great tenderness over the area inoculated, severe pain in the affected limb, headache, backache, and sometimes chills and even fever.

VARIATION IN TINCTURE OF DIGITALIS

During three years Alexander Goodell (*Pharmaceutical Journal and Chemist*) examined twenty-three samples of tincture of digitalis, freshly made by chemists of repute. These samples were all tested out carefully upon the frog and it was found that 12 were of average potency, 6 were under the average, and 5 over the average of strength. Of those under strength it was found that to equal the maximum dose of 15 minims the following doses would be required of these preparations: 25, 22 1-2, 22 1-2, 22 1-2, 20, and 18 minims; of those over strength, the following doses were the equivalents of the usual 15-minim dose: 10, 9, 8, 7 1-2, and 4 minims. From this it will be seen that there was a difference of more than 600 percent between the strongest and the weakest digitalis tinctures offered by reputable English pharmacists. As Dr. Goodell remarks regarding these over-strength (and under-strength) preparations, "in view of the serious conditions for which digitalis is prescribed the possibility of their existence in the hands of the dispenser is sufficiently alarming."

DIPHTHERIA ANTITOXIN IN HEMOPHILIA AND HEMORRHAGE

The serum investigations of the last years have shown that a heterogenous serum is an excellent means of increasing the coagulability of the blood and that therefore it offers a ready means of controlling hemorrhage, whether in hemophiliacs or others. Since such heterogenous serum as such is not always available, it is well to remember that we have it constantly on hand in the form of the diphtheritic antitoxin. Dr. H. Krauss reports (in the *Münch. Med. Woch.* for 1910) an experience in the case of two brothers who were hemophiliacs and in whom obstinate bleeding occurred after the extraction of a tooth and from a hemorrhage from the kidney, respectively. It is well to remember this emergency-remedy in severe hemorrhage.

CALCIUM ACETYLSALICYLATE

Certain advantages accrue to a soluble aspirin, these being its ready ingestion and its slight corrosive action upon the gastric mucosa. Its reaction is neutral on account of its content of 10 percent calcium added to the 90 percent aspirin. Chemically it is calcium acetylsalicylate. It is soluble in water and yields a practically tasteless solution. No unpleasant effect on the gastrointestinal tract or on the kidneys had been observed.—*Therapeutische Monatshefte*, 1912, p. 660.

GLEANINGS *from* FOREIGN FIELDS

TRANSLATED BY E. M. EPSTEIN, M. D.

Antitoxins and Antitoxin Therapy

ANTITOXIN-THERAPY has its beginning with the elaboration of the immunity problem. In his researches of acquired immunity, Pasteur started from the observation that many infection-diseases attack their subjects only once, and that a very light affection, such as a light typhoid fever or a slight attack of cholera, affords protection against a second attack equal to that of a more severe one. In his systematic laboratory experiments, Pasteur sought for preliminary treatments which, like the spontaneous natural treatments, might confer immunity by slight affections without severe damage. Pasteur tried to attain his aim experimentally, as Jenner attained his end empirically by utilizing the accidental observation that harmless cow pocks protect against the dangerous human pocks.

Pasteur succeeded first, in 1880, in the case of the socalled chicken-cholera, and soon after in anthrax, in immunizing animals by inoculating them, with bacteria artificially attenuated in their virulence, against the fully virulent bacteria which cause the disease.

Of especial importance for Pasteur's subsequent success in inoculation for hydrophobia, was the discovery that the virulence of the microbes is modified by passing from animal to animal. Soon, too, it was noticed, moreover, that attenuated bacteria were not the only means of immunization, but that the soluble products of the metabolism of the bacteria, which we now call toxins, can be used for the same purpose. This was first proved by the American scientists Salmon and Smith during an epidemic of hog-cholera in the years 1885–86. Immunization against the diphtheria and tetanus bacilli by the aid of culture filtration followed by Roux, Briger, and Kitasato.

In other cases, besides the two mentioned, the immunization by the metabolic products of living bacilli does not succeed. If, however, the bacilli are killed, then immunization can be secured with the substances contained in their dead bodies, which substances are the socalled endotoxins. This was first shown by Pfeiffer as to the cholera bacillus.

The work on the problem of immunizing was decidedly aided by the discovery that gradually increased quantities of bacterial substances (culture filtrates) in preliminary treatments of an animal not only could immunize it against the living disease exciters, but that those preliminary treatments could protect the animals against large amounts of the virus itself. With this discovery in hand, the problem could then for the first time be approached with a quantitative consideration.

Chauvean established the fact soon after Pasteur (1881) that animals could be immunized with fully virulent disease exciters. The natural protective powers of the organism maintain their preponderance in the struggle against the bacteria when the number of the latter is small or when the conditions for their increase are unfavorable. If the organism prevails over the infection or if it prevails over the intoxication (by means of toxins), then the organism becomes "immune," and in that case, in fact, by the formation of antitoxins and other protective bodies, i. e., by the activity of its own powers. And because in this instance the organism becomes immune of its own powers, therefore is this form of immunity designated as "active immunity."

The specific protective substances formed in the active immunity circulate in the blood. This we know since its discovery by Behring. When these ready-made protective bodies are introduced into another organism, then they may cause a "passive immunity." It is called passive, because it arose without any effort of the animal treated and only by the incorporation of protective bodies that were formed in another organism.

In the active immunity there is always a latent stage before the immunity takes place, so that the protection against a sick-making dose does not occur until the fifth or tenth day of the treatment (see v. Dunger: "Die Antikoerper," Jena, 1903); but in the passive immunity the immunity is transferred at once with the protecting serum. But the active immunity has the advantage of lasting very long, because the reaction of the cells which conduce to the formation of protective substances continue a long time and enable the organism to replace any loss of protective bodies. Passive immunity lasts a much shorter time, because the bodies which originated in an actively immunized organism are foreign to the passively immunized animal body and are eliminated or oxidized, and their loss is not replaced.

Active immunity, aside from vaccination against variola and lately also against typhoid fever, is employed principally in the treatment of rabies.

Rabies. The exciter of rabies is as yet unknown. Its infection is especially distinguished by its long incubation time. Pasteur found that the incubation time is much shortened when the virulent substance (the central nervous system of an animal affected with rabies) is inoculated directly into the central nervous system of the animal experimented upon, rather than in any other part of its body. This fact depends, as we now know, upon the mode of distribution of the virus which reaches the central nervous system from the point of inoculation or, in rabies, from the place bitten being the point of its attacking activity by the way of the peripheral nerves, and the disease begins then only when the virus has reached the centers of that system.

The establishing of this fact by Baber, de Vesta, and Zagari leaves the question still unsettled whether the virus itself is transmitted in the path or the products which the virus produces in the nerves. But since it is settled by Meyer and Ransom that viruses of tetanus and diphtheria are transmitted by the nerves, we may assume that the shortening of the incubation time when the virus of the rabies is directly inoculated into the central nerve system also depends upon the shortening of the transmission time.

The more virulent the infection matter is, the shorter also is the incubation time. But even the most virulent virus takes a certain time for its transmission (Pasteur), and this ndepeds upon the length of nerves passed through, and amount in the rabbit to from seven to eight days, and in the guinea-pig from five to six days.

By proper passages through an animal organism or by exposing the infection material to dry heat for various periods, Pasteur obtained a series of viruses of various incubation periods up to the fully virulent virus (*virus fixé*). By preliminary treatment with the weaker viruses, the animals experimented upon became at last immune against the strongest virus.

In active immunity protective substances are found in the blood since the serum of immune animals is able to protect other animals by conveying it into them (Baber and Seff, *Annales de l'Institute Pasteur*, 1889, Bd. 3). We lack, however, the knowledge of the exciters, and we can not, therefore, decide whether the protective bodies that arise act against the viruses of the exciters of rabies or against the rabies itself. (Compare Marx on this subject in Kolle-Wassermann's "Handbuch der Infections-Krankheiten," Bd. 4, s. 1264).

The success, however, of the treatment of rabies is undoubted, and it takes place after the infection; so we have to assume, therefore, that the protective bodies which are formed by the treatment are able to protect the nervous system against the toxins that are formed at the place bitten, because the proliferation of the exciters and the production of the virus at the place of infection come about very slowly.

Treatment with *tuberculin* also depends upon active immunity. The tuberculins are endotoxins which can be extracted from the bacilli only after their death. The various preparations which are in use are filtered extracts. ("Old tuberculin" consists of glycerin and water in which the deadened parts of bacilli cultures are dissolved; "new tuberculin" consists of minutely triturated, dried, and pulverized bacilli bodies themselves.) With his new tuberculin, Koch was able to immunize animals, which he experimented upon, against a fatal infection with tubercle bacilli.

The introduction of the tuberculins sets in action general as well as local reactions in the organism which has become affected with tuberculosis. It is upon the varied intensity with which tuberculin produces reactions in normal men and animals, on the one hand, and in those who are affected with tuberculosis, on the other, that the significance of the tuberculin test in its various forms depends. Tissues that are diseased with tubercle show a similar hypersensitiveness against other substances also, as for instance cantharides and albumin; but there are here such quantitative differences which show the tuberculin reaction to be specific. (Compare "Pharmakologie der Entzuendungsvorgaenge.")

Serum therapy rests on the transferrance of protective substances that were formed by active immunity in one organism (animal) from that animal to another. Before discussing the foundations of serum treatment and the limits of its efficiency, it is next to indispensible to enter upon our present-time conceptions of the nature of the toxins and antitoxins, and their mutual relations to each other.

The conception of the toxins originated when it was found that the pathogenic microorganisms contained strongly active substances whose toxicologic connection was recognized. Next there were found in the filtrates from bacterial cultures soluble poisons which evoked symptoms like those which the exciters (microorganisms) themselves evoked. (Roux and Yersin, Brieger and Fraenkel.)

Toxins are poisons which produce their specific counter poisons—antitoxins—in the organism. We know that toxins either do not dialyze at all or do so with difficulty, hence they are either themselves colloidal substances or, by becoming joined to albuminous bodies, get the character of colloids. They are mostly very sensitive to heat, light, and air, and are generally of an unstable chemical nature. They may possibly be of an albuminous character, for they share in just those characteristic qualities in the organism which go to incite the formation of substances which react with them specifically and also with unpoisonous albuminous bodies so far as they reach the blood unaltered. The toxins are attacked by the enzymes, the same as the albuminous bodies are; a fact which explains their relative harmlessness when ingested by the mouth, regardless of the slight absorbability of a few of them.

The next substances with which the toxins present an analogy are the *ferments*, of whose chemical nature we know just as little. These also evoke the formation of specific antiferments in the organism, and are characterized, like the toxins, by attacking a specific substratum. Like the ferments, the toxins, too, are perhaps of a kind of protoplasm, i. e., they still possess the qualities of living albumin.

All that we know of the toxins is limited therefore to their poisonous effect and their ability of starting, or inciting, the formation of the specific antitoxins in the organism. Poisons of this kind originate not from the metabolism of the bacteria alone. Animal poisons behave in the same way; thus, for instance, the poison of the toad, the spider, the snake, the scorpion, the bees, and some fish-poisons. There are also socalled phytotoxins [vegetable toxins], such as ricin in the ricinus-seed, crotin in croton-seed, abrin in jequirity.

Antitoxins, for the discovery of which we are indebted to Behring and Kitasato. (*Deutsche Medizinische Wochensch.*, 1890, and *Zeitschr. f. Hyg.*, 1890.) They showed, in 1890, that the active immunity, of the animals experimented upon, against tetanus and diphtheria could be transferred to other animals by the serum of the blood of the actively immunized animals. Soon after, in 1891, Ehrlich was able to establish the fact that a similar behavior exists in poisoning with ricin.

The serum from the blood-giving animal contains not a trace of the poison which might in some way produce active immunity in the second (the receiving) animal also. In active immunization there must, therefore, originate a new agent either from the poison or from the cells of the body, or from both conjointly, which new agent reacts with that toxin specifically and which serves to produce active immunization.

What is it, then, that we know of these antitoxins? Of their chemical nature nothing is known. But in all probability we are dealing with some colloid substances, compounds whose molecular weights exceed considerably those of the toxins—as Arrhenius and Madsen conclude from a comparison of their diffusion rapidity. The antitoxins are also chemically unstable substances, still they are generally more capable of resistance than the toxins. Many of the antitoxins will withstand a temperature of 60° C. (140° F.) and are destroyed only at 80° C. (176° F.), according to the salt-contents. Against acids and alkalis they are more resistant than the toxins; they also are not so liable to decompose spontaneously by air and light as the toxins.

The antitoxins, therefore, can at present be characterized only biologically. They may be described as reaction products of the organism which originate as a result of the action of the toxins, and react with the originating of the toxins. This reaction abolishes the action of the toxins. Of any other action of the antitoxin we know nothing.

Next of importance to note is the specific nature of their power of protection. An animal which has been immunized against diphtheria can, by its serum, make harmless diphtheria toxin only; it cannot make harmless tetanus toxin in the test tube with its diphtheria antitoxin; it protects other experimental animals against a lethal dose of diphtheria toxin alone, and not against tetanus toxin.

To explain this behavior of antitoxin against toxin, it might have been thought that both antitoxin as well as toxin act upon those bodily cells that are sensitive to poison, and that the antitoxins, as Buchner assumed, by a preceding injection of both at the same time (or by trying a mixture of both) are able to hinder the action of the toxins by a physiological antagonism. We now know that the view held by Ehrlich and Behring is the correct one, namely, that the antitoxin does not influence the cells of the body, but reacts with the toxin—which is not destroyed by the antitoxin, as it was formerly believed to be.

The reaction of these two bodies consists, rather, in a mutual binding of each other, and the experiments of Ehrlich with ricin and diphtheria poison have shown this binding takes place in definite proportions. The reaction requires a certain time and is accomplished quicker at a higher temperature than at a lower. Whether this mutual influence of toxin and antitoxin upon each other is in the manner of a salt formation by an acid and a base, in which there is a reversible combination in both, or whether this combination is merely a difficult one, is still the subject of very lively discussion. (Arrhenius, "Immunochemie im Ergebniss der Physiologie," 1908, Bd. 7, p. 480.)

(*To be continued.*)

DOSAGE OF RADIUM EMANATION

Dr. P. Mesernitzki, of St. Petersburg, from the experiments he made in the Curie laboratory at Paris, draws the following conclusions: The emanation from radium by no means is an indifferent gas for the human organism, and it should be carefully dosed when administered internally. Generally speaking, it may be given in from 1000 to 10,000 Mache units; but it is best to begin with small doses, 100 Mache units, since some persons react strongly to small doses. It should not be taken on an empty stomach. In the test tube sodium chloride can be decomposed up to ammonia, especially by the *alpha*-rays. The exact relations between the ammonia and the intervening products can not be determined because ammonia itself may be destroyed by radium emanation. In gout these emanations effect an increase of the purin bodies in the urine.—*Therap. Monatsh.*, 1912, p. 665.

ABSORBABILITY OF SALT SOLUTIONS

Salt solutions are absorbed most readily in Retzius' space (prevesical). Dr. D. Schouten says that one liter will be absorbed there in from nine to ten minutes; hence the painlessness of the injection there.—*Therap. Monatsh.*, 1912, p. 664.

GERMAN NOSTRUMS

Under the name of coco drops, a druggist in Germany compounds a remedy to be used as the last resort in female periodic irregularities, which he promises will give immediate relief. When prosecuted, the druggist confessed that his remedy consisted of the tinctures of valerian and pepper.

Another nostrum sold is called salabar tea. This consists, essentially, of 35 parts each of herba marrubi and herba agrimoniæ, and 20 parts each of rhizoma rhei and radix ononidis. Recommended for gallstones.—*Pharmaz. Zentralhalle.*

THE KEEPING QUALITIES OF SCOPOLAMINE

Opinion on this subject differs widely. Solutions of scopolamine were observed for 250 days and no alterations noticed, either physical or chemical. From this it is presumed that its physiological effects also remained unaltered; and this is confirmed by Coletta's elaborate examinations.—*Therap. Monatsh.*, 1912, p. 663.

DETOXICATED ADRENAL PREPARATIONS

The Chemische Fabrik auf Aktien (vorm. E. Schering) prepares the adrenal glands with the expressed juices of the pancreas, the spleen or liver, adding peptone or similar preparation. In this way the secretion of sugar and the increase of blood pressure are obviated, and there remains the only *sui generis* effect upon the heart, resembling that of digitalis.—*Pharmaz. Zentralh.*, 1912, p. 1342.

MISCELLANEOUS ARTICLES

The Proposed Antinarcotic Law: A Matter of Exceeding Importance to the Medical Profession

IT IS hardly necessary to remind the readers of CLINICAL MEDICINE of the fight which has been carried on in these pages against the succession of bills introduced in Congress during the last two or three years, which, while presumably intended to limit traffic in habit-forming drugs, were in fact so drafted as to work a great hardship upon the physicians of America, and especially upon those who dispense their own remedies. We refer, of course, to the Mann Bill, the Cullom Bill, the Foster Bill, and, lastly, to the Harrison Bill introduced in the House of Representatives last July.

The danger of legislation of this class has been pointed out so many times that it is hardly necessary to go over it again. And, yet, the object of these bills unquestionably was a good one. In certain sections of our country the consumption of narcotic habit-forming drugs, particularly of morphine, cocaine, and heroin, is growing at an alarming rate, and there are depraved, conscienceless individuals who are only too willing to profit by this traffic, and who have fostered these habits in the "red-light" districts of our great cities, among the negroes of the South, and among the ignorant, weak and vicious generally. There even are persons who sell these drugs, first in the form of candies, and the like, to school children in order to make them drug-fiends and customers. Nothing too strong can be said about men and women who are guilty of participating in this most hellish traffic. Assuredly, there are no persons in the country who should be more glad to see the improper use of these drugs brought to an end than members of the medical profession.

The Harrison Bill, to which we have just referred, was defective in many respects, and it was found objectionable to practically all branches of the drug trade, as well as to the medical profession.

However, this bill met with a certain amount of approval on the part of one branch of the trade, the wholesale druggists. At the last meeting of the National Wholesale Druggists Association, held in Milwaukee, in October, Dr. Hamilton Wright, International Opium Commissioner, the real author of the bill, was present by invitation, and he created such a favorable impression that a committee was appointed to aid him in the preparation of certain minor amendments which, if incorporated, it was thought would make the bill acceptable to the jobbing interests. This committee met in due time and suggested certain changes, which were accepted by Dr. Wright, said changes being outlined briefly in an excellent editorial appearing in *The Oil, Paint and Drug Reporter* for December 16 last. With this support, the prospects were that most likely this bill would speedily become a law, especially since it had the powerful support of the administration.

In view of this emergency, a call was issued by Professor James H. Beal, secretary of the American Pharmaceutical Association, for a conference of the drug-trade interests to be held in Washington, on January 15, upon the general topic of "legislation." It was announced that the special subject for discussion would be the Harrison antinarcotic bill.

The following bodies were invited to send and did send three delegates each to the conference: The National Association of Manufacturers of Medicinal Products, The American Association of Pharmaceutical Chemists, The National Wholesale Druggists Association, The American Pharmaceutical Association, and the National Association of Retail Druggists. Representatives of the American Medical Association and of the Veterinarians were also invited to, and did, participate in the discussion of the bill. The writer was present as a delegate.

It early developed that there were irreconcilable differences between Dr. Wright, International Opium Commissioner, representing the administration, and the delegates to the conference. It became clear that Dr. Wright was absolutely unfamiliar with trade and professional conditions and that, while he was possessed by a great ideal, he was also obsessed with the idea that this greatly needed reform could only be brought about in exactly the way which fitted in with his preconceived plans. Unfortunately, he resented criticism and was overbearing and uncompromising in his attitude toward those present.

At a hearing before the subcommittee of the Ways and Means Committee which had the bill in charge, and presided over by the Honorable Francis Burton Harrison, who had introduced the bill, strong opposition to it was developed, and its weaknesses, inconsistencies and burdensome character were brought out in such a striking way that no one (not even Dr. Wright himself) could fail to see its defects.

Lack of space does not permit us to point out here all of these defects, but it is of special interest to the medical profession that this bill, as presented by Dr. Wright, levied a tax of at least $5.00 per annum upon every physician, veterinarian, and retail druggist. This meant an annual tax upon the medical profession of fully $700,000! It was so curiously worded that, according to a strict interpretation of the law, every veterinarian, every hospital, and many dispensing doctors would become jobbers and liable to an annual license-tax of $100! Furthermore, every physician would be required, under the terms of this bill, to keep a record of practically every grain, or even fraction of a grain, of opium, and its derivatives, and of coca and its alkaloid, cocaine, which he might use in customary dosage in his practice. Even a single hypodermic injection of morphine or the administration of a moderate dose of codeine would become a matter for official record.

The slightest infraction of this law, as projected, subjected the dispenser to possible fine and imprisonment. Thus, the terrific burden that would be placed upon every practicing physician can readily be imagined. How disastrous it would be to the dispensing doctor in its ultimate consequence needs no argument. Naturally, we fought this phase of the bill to a finish, seeking conditions which would give the doctor a "square deal." These conditions were later secured, in part, at least.

In the effort to secure a bill which would accomplish the thing desired with a minimum of burden upon the medical profession and the drug trade, it was finally decided by the conferees to take up the Harrison Bill in detail, section by section, suggesting amendments that would make it acceptable. As a result, a bill was drafted which, while reducing the burden very decidedly, nevertheless promises, if it becomes a law, to be much more effective than the original Harrison Bill. In its preparation the delegates were greatly assisted by Dr. M. I. Wilbert, of the Hygienic Laboratory, representing the American Medical Association.

This draft was again submitted to Dr. Wright, and, not meeting with his approval, a subcommittee was appointed to confer directly with Representative Harrison, offering it as a substitute for the original bill. Mr. Harrison found this substitute bill satisfactory and promised to introduce it as submitted, providing no radical changes seemed necessary after a closer examination. This was arranged late on Friday, January 17. As to its later history we are not yet advised.

Whether the bill will be introduced exactly as prepared, and, if so, whether it will actually become a law, of course none of us can predict. But, since it meets with the approval of the medical profession and drug trade, as represented at the conference, and, since it gives promise of curtailing this iniquitous traffic more than anything heretofore suggested, it deserves careful study and should not be hastily rejected, in view of the enormity of the evil which it is designed to stamp out.

The following points regarding this bill are worthy of special notice:

First. It is what is called a revenue measure, in other words it exercises the taxing power of the government, not to secure revenue, but in order to permit of the exercise of a closer supervision, thereby enabling the federal authorities to control the traffic in narcotic drugs between all licensed persons, intrastate as well as interstate. Since all persons who handle these substances, except as actual users, must be licensed, it is expected that it will be possible to trace all the opium and coca imported or produced in this country practically to the ultimate consumer.

Second. Importers, manufacturers, jobbers, and retailers will all be required to take out licenses. The physician or veterinarian who uses any of these drugs or their derivatives in his practice will be classed as a retailer and must secure a license.

This is a hardship, one that is much to be regretted, but which seems to be necessary to control the traffic. But all doctors will be treated alike, and there seems to be no unfair discrimination against the dispensing physician.

Third. The license fee of the retailer (also of the doctor) is fixed at $1.00 per annum, and this license will be obtainable only from the collector of internal revenue of the district in which the individual resides or transacts his business. Producers, importers, manufacturers, and wholesalers will be required to pay an annual fee of $25.00.

Fourth. Opium and coca leaves, imported or produced in this country, hereafter will be subject to an internal-revenue tax. The payment of this tax must be shown by the affixing of the proper internal-revenue stamps.

Fifth. Persons licensed under this act who may order from other dealers (manufacturers from importers, retailers from manufacturers or wholesalers or from other retailers, etc.) any opium or coca or their derivatives, combinations or preparations will be required to use a duplicate order-blank furnished by the Commissioner of the Internal Revenue. These blanks will be numbered serially and will be supplied only to persons licensed under the act. No order can be filled by any jobber, manufacturer or importer unless it is accompanied by one of these blanks. The person ordering will be expected to retain the duplicate blank, or stub, as his voucher, while the stamped order must also be preserved by the firm or persons supplying these goods, for inspection by federal officers. By the use of these blanks it is thought it will be possible to trace the disposition of all opium and coca and their alkaloids and derivatives.

Sixth. The provisions of this act do not apply to the manufacture, compounding, sale, distribution, giving away or dispensing of mixtures containing small quantities of opium and its derivatives. For instance, remedies or preparations which do not contain more than 2 grains of opium, 1-4 grain of morphine 1-8 grain of heroin or 1 grain of codeine to the ounce (either solid, semisolid or liquid) are exempt from the operations of this law. Liniments, plasters, ointments, and other preparations designed for external use only are also exempt.

The foregoing is a brief outline of the most salient features of the bill as it affects the medical profession. We shall keep our readers fully advised of its progress, and if at any time a situation arises which seems to demand the action of the profession we shall bring it to their attention at once, and in a way that will command a hearing. There have been so many efforts to "put something over" on the doctor that we have found it wise to look every gift-horse in the mouth.

Meanwhile we advise every physician to watch this legislation closely. Some of us have been working mighty hard in your interest. Be prepared to get your coat off if the necessity arises.

CHROMIUM SULPHATE AND TOBACCO TURPENTINE IN ABSCESSES

I have noticed that in giving chromium sulphate to tobacco users all have claimed that the desire for the weed was leaving them, and some of these said they had about concluded to "cut it out." I have wondered if this observation had been made by others. In the few cases in which I have been administering chromium sulphate, every person has informed me that it was removing the appetite for tobacco.

I have been using turpentine to wash out non-inflammatory abscesses and those following sepsis with much better results than any agent I have ever tried heretofore. This method is a little painful and the turpentine should have a free outlet, but the results are prompt, i. e., cessation of the discharge and rapid healing.

H. J. Neeley.

Butler, Pa.

[Have other readers of Clinical Medicine observed a similar action of chromium sulphate as regards the tobacco habit? Let us hear from everybody. If this is true (and we all hope it is) it promises to be a "big" thing. The turpentine suggestion is interesting indeed.—Ed.]

IMPORTANCE OF COOPERATION*

Several years ago, in getting the views of different men as to the best way to practise medicine successfully, from a financial point of view, the editor of a western medical publication advocated that physicians locate in the country. But all country practice is not profitable. Another editor, in an eastern city, declared that in time we should all be specialists, and so he urged all physicians to take up and practice some specialty. But his view does not suit everybody.

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*Read before the Medical Society of the County of Chemung (N. Y.), June 20, 1911.

If a business man saw his business going to a competitor, he would study the situation, find the reason, and proceed to remedy the conditions. What are we doing to prevent our business going to the drugless healers and faddists who apply practically one treatment to all diseases and ailments? It is said on good authority that there are in this country 28,300 drugless healers with a following of 17,600,000 people.

What are we doing to prevent the enormous consumption of patent medicines, for which it is said an average of $2000 per physician per year is paid?

Our remedy for this startling condition—for in our everyday work we do not grasp the extent of the matter—is newspaper publicity, as Dr. Frank Hallock, retiring president of the Connecticut Medical Society, advocated recently. He urges that the readers of newspapers should have some source of medical information other than the perverted statements in advertisements. The Colorado state society and other state societies are working along these lines now, I believe.

The term "charity" indeed covers a multitude of sins in the medical profession. I should not complain of true need, that receives our willing service; but I object to unnecessary charity and that socalled charity that allows well-to-do people to take advantage of dispensary practice in the big cities. That the charity abuse in Chicago alone amounts to an average of $2500 a year for every physician in the city, is the astounding claim. On the other hand, I am told by a physician connected with the circulation department of *The Journal of the American Medical Association* that a canvass of the physicians of Chicago showed an average income of scarcely $725 per year. Why should this deplorable condition prevail?

I am willing to do my share of needed charity work (and I do it), but I should very much wish to have some personal choice in the matter. This brings up the subject of the "deadbeat." I have no statistics to show the prevalence of this delectable species, but if you will look over your accounts you will find a nice little income tied up in deadbeat accounts.

This is a condition that no one man, nor yet a few, can cope with successfully. A single individual may reduce his list of "deadbeats" to a minimum, to be sure. But why not all get together to reduce the total number of "deadbeats" to a minimum?

I believe that, if you make a man pay *you*, he will employ *you*, instead of going to your competitor and "knocking" you. It has always seemed heartless to refuse treating worthy dependents of a "deadbeat" just to punish the "beat" himself. I should like very much to punish him in some other way.

Scientific management is discussed on all sides today. If it is not scientific farming, it may be scientific management of office work, or even of shop work. The conviction has long possessed me that physicians are not scientific in managing the business side of their profession—and it has its business side.

The Vedas—the sacred writings of India—show that medicine was early considered a business as well as an art. "The practice of medicine is a science, an art, and a business," some one has aptly said. An old college professor is quoted as saying, "Medicine is a noble profession, but a damn poor business." One writer on this topic a while ago expressed himself as follows:

"Our unit system of doing business is an unmixed evil. It increases our fixed charges, causes rabid competition, and makes enemies among the very people who should be our friends. Our only salvation in medicine is in cooperative work. The physicians in each community must unite and secure laboratory knowledge and facilities and turn guesswork into certainty. If physicians would organize and cooperate with each other, they could increase their efficiency in many things. Every member of a cooperative firm should be a general practitioner with some specialty. All should cooperate with each member of the firm in diagnosis, and do it cheerfully. The firm could maintain one or more laboratories, which would be under the direction of some member of the combination."

Cooperation seems to be the basis of most successful ventures. It is true, all cooperative ventures have not been brilliant successes, but the grocers and coal-dealers in our city appear to have very effective cooperative associations, and some of the druggists had a cooperative buying-club that seemed to work well, at one time.

It is said that all the hospitals of Toronto, Canada, are going to purchase all their supplies through one agent. This is a plan advocated by Dr. Goldwater, superintendent of Mt. Sinai Hospital, of New York. As a result of the formation of a hospital association in a western town, a fine hospital was built. The People's Hospital, of Sayre, Pennsylvania, is a cooperative affair, as you all know.

Several physicians in a western town formed a cooperative firm, each practising his favorite branch of medicine, as well as general medicine. In connection with their offices, they had a lounging room for themselves and visiting physicians. They provided for a vacation for each member of the firm once a year, and if one of them wished to take postgraduate work his practice was looked after by the other members of the firm.

In China, it is said, physicians combine. Especially in Hong Kong, practically all English-speaking physicians combine so that the firm consists of an internist, a surgeon, and some other specialist.

Several physicians in Western Pennsylvania formed the Red Bank Physicians' Protective Association, for the better handling of the conditions confronting them, the worst of these being a great lack of uniformity in fees, and the "deadbeat." The association has regulated the fees satisfactorily and the members have been much gratified to find "deadbeats" of long standing paying their accounts.

In some cities physicians have a professional building, different men occupying the same offices at different hours. In some cases they have separate offices, but maintain a common waiting-room presided over by a girl who operates the telephone exchange in the waiting-room. I am told these plans are in operation in Chicago.

I mention these instances to show that cooperation is successful in many instances, and therefore is practical.

A combination that would provide for at least one man in the office at all times to attend emergency cases would be filling a want, as I have been told many times by patients that every physician was out when they were the most needed for some emergency.

While conditions in our town are very satisfactory as compared with elsewhere, I think these could be improved upon somewhat. For instance, the present fee-table is quite adequate if rightly followed, using the present fees as a minimum. It seems to me that double fees should be allowed for night-calls, in the office as well as to the patient's home. In some places, with the fees the same as ours, two dollars is charged for making a house-visit during office hours.

I think a fee should be charged for filling out insurance papers for disability and death. In a place I read of, the physicians devised a uniform blank, had them printed at their own expense, and furnished them properly filled out at a charge of fifty cents per certificate.

A charge should be made for dispensing medicines, especially renewals.

Only by cooperating, can we destroy lodge, contract and cheap insurance-examining practices, for I have been told by physicians that they would drop their contracts in a minute if they could feel sure that a colleague would not snap them up. I refused a fine lodge practice only to have it taken in a short time by one of my friends in the profession.

By cooperating, we could better ourselves by increasing our individual incomes, and we would better the public by having more time and money to give to the public questions we are expected to solve.

Of course many physicians have become independent or are originally independent financially and can do good public work, but the rank and file are not able to and the public loses the services of good, capable men. If we are to have a contented, prosperous profession, it must be by cooperaton on the part of all in the profession.

C. F. Abbott.

Elmira, N. Y.

HEART FAILURE. TROUBLESOME COUGHS

I have been a subscriber to Clinical Medicine almost since its birth, but I am afraid I have been content to suck honey, and have not given my share of helpfulness. It has occurred to me that if the subscribers to our journal would think over the things that have proved successful after long experience, the things that they pin their faith to in the critical emergencies that from time to time confront them, and from these cull out one or two that are preeminent above the others in usefulness, and send them in, we should all get some very valuable help.

With this idea in mind I am going to tell of a treatment that for years has given me the most dependable kind of help in desperate cases of heart failure. The condition of the patient when we arrive is something like this: Semi- or totally unconscious. Skin cold, and wet with perspiration. Heart action irregular and very feeble. Lungs full of mucus, and a frothy mucus, usually bloody, exuding from the mouth. Fingernails and lips blue.

A patient presenting these symptoms is very near dissolution, and is past the stage when he can respond to ordinary stimulation. Formerly I lost these cases, but within recent years I have had perhaps ten and have not lost one.

I give hypodermatically 1-30 grain strychnine sulphate, 1-50 grain glonoin; and last and *the important* thing, a whole hyoscine-morphine-cactin tablet. The usual procedures as to rubbing, heat, and the like, are then instituted.

Result: Inside of five minutes the patient is in a deep slumber. Respiration slows down, The heart grows steadily stronger. The mucus-laden lungs begin to clear up; and within half an hour the patient is breathing easily and is out of danger. I have seen the most desperate type of this form of heart failure respond under this treatment, and after twenty-three years of active practice I pin my faith to it.

Sometimes the little things bother us in medicine so I am going to give you as another contribution, the formula that I use to stop the dry, harrassing cough (of children and adults alike) that simply defies the cough medicines unless they are loaded with narcotics. It should be especially useful in the persistent coughs that follow pertussis, although I have never had an opportunity to try it in that disorder.

Phenol	dr. 1-2
Oil eucalyptus	drs. 2
Creosote	drs. 2

M. Sig. Put half a teaspoonful in an old dish with a pint of water, and boil. Let the patient inhale the steam.

Usually a cough that would otherwise keep steadily up for hours will stop instantly, thus treated. Upon recurrence a repetition of the procedure will give the needed relief.

These two treatments are as certain in my hands to accomplish the wished-for results as anything I know of in medicine.

Francis E. Park.

Stoneham, Mass.

SPARTEINE SULPHATE IN LARGE DOSES

As a remedy to sustain the heart's action in debilitated conditions I find sparteine sulphate in 2-grain doses every two to four hours a reliable agent.

The action of sparteine as a heart sustainer surprised me in one case. An old man up in the eighties got into a generally debilitated condition. His pulse would skip beats, quiver at times for a long time, and occasionally beat with great force. According to his general condition, age, and heart's action, I expected him to die at any time, but with the aid of sparteine sulphate in 2-grain doses every two to four hours, his cardiac action gradually improved and in about four or five days was strong and regular. He gradually became insane, was sent to the asylum and died a few months later. I think that sparteine prolonged his life when under my care.

In another case, a lady over 50 years of age, sparteine acted well. She got 3 grains every two hours one day, which had a very beneficial effect both on heart and kidneys. She had crazy spells, talked out of her head occasionally when under treatment, but was never known to do so before. Of course the mental influence in these two cases made me consider whether the sparteine in those large-size doses had anything to do in producing them or not. I do not think it did, but shall watch for such in future.

I believe Dr. Pettey is correct in the doses of sparteine sulphate. I noticed that Merck labels his bottles of sparteine sulphate "poison." I should like to know how much it would take to produce death in a healthy adult, how it produces death, and the antidote.

J. A. Burnett.

Hartshorne, Okla.

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[According to Kobert (*Lehrb. d. Pharmakologie*, p. 343, 1908) sparteine increases the working capacity of the heart. It does so by producing a moderate slowing of its beats. On the other hand, digitalis is classed by Kobert among those remedies which increase the tonicity of the heart and of the vessels.

Sollmann ("Textbook of Pharmacology," 1906) says that by a stimulation of the vagus mechanism and direct depression of the muscle, sparteine slows and weakens the cardiac contractions. He insists that sparteine cannot therefore be classed with digitalis, which, although slowing the heart, strengthens the contractions. According to Sollmann, the blood pressure is usually lower when sparteine is taken by the mouth. He differs from Kobert in that he does not admit that the drug increases the working capacity of the heart. It is therefore of no value in heart disease, or at most should be used in the same class of cases as aconite. Doses of 1-6 grain are specific in some cases of asthma. The maximum dose of sparteine sulphate, according to Sollmann, is 1-2 grain.

Cushny has observed that after the administration of sparteine the rhythm of the heart is slowed and the contractions weakened. After injection into a vein, a very slight increase in arterial tension is produced, which is absent if the remedy is taken by the mouth, and even the slight rise in pressure induced by intravenous injection is of short duration only. Cushny says that the claims ascribing to this drug an action similar to that of digitalis are erroneous, and that both experimental and clinical observation show them to be unfounded. The drug is comparatively of slight toxicity and may be given in doses of 2 grains with perfect safety. The range of dose, according to Cushny, is from 1-16 to 12 grains in the course of twenty-four hours.

The contradictory character of these reports is well borne out and illustrated in a review of sparteine appearing in the latest (25th) volume of Merck's "Annual Report," on page 110 and following. A variety of authors are cited, some of whom have observed a digitalis-like action, or at least an action similar to that of digitalis, while others side with Cushny and deny such action.

Emphasis is placed here upon the comparatively slight toxicity of the drug. In fact, Griffe took 6 grains of sparteine sulphate without evil consequences apart from a sensation of dulness in the head. Clark reported to *The American Journal of Medical Sciences*, in 1887, that following the use of single doses of 1-6 to 1-4 grain an action was observed after thirty to forty minutes and lasting for four to five hours, and that varied doses, amounting to as much as 10 grains, occasioned no toxic symptoms. Most authors mentioned in Merck's "Report" recommend the drug in those cases in which digitalis either fails or must be omitted on account of its cumulative action.

Prior (see the *Berl. Klin. Woch.*, 887) says that in the latter case doses of 1 1-2 grains should be used, and that larger doses should be avoided, as they are liable to cause a return of irregularity of the cardiac rhythm. Lewaschew (*Zeitschr. f. klin. Med.*, 1889) considers 1 1-2 to 5 grains of sparteine sulphate, given in three to four separate doses, the most reliable daily dose.

Merck's "Report" concludes that on account of the relatively slight toxicity of sparteine it is hardly possible to fix a maximum dose. In the literature 1-2 grain to 1 1-2 grains are given as the maximum single dose; 1 1-2 grains and 7 1-2 grains as the maximum daily dose. No cases of death from sparteine have been reported.

Finally, the best therapeutic review of this drug yet published and one based upon careful and exceedingly extensive clinical study, is that of Dr. Pettey now appearing in CLINICAL MEDICINE. We urge every one to read it—ED.]

ABSURDITY OF PHENOL POISONING

I am painfully tired of reading, in the columns of medical journals, about poisoning and gangrenous disasters resulting from the application of phenol aqueous solutions or glycerin mixtures to quick human anatomy; and I almost revolt at any editorial request for new facts on the uses and abuses of the magical substance I have been stereotyping for years; and that the father of its limitless employment, Dr. Ben H. Brodnax, told the profession for an age; and that Dr. J. D. Albright proclaimed between the pages of popular books and editorially in his medical journal for a long time.

Aqueous and glycerin compounds of phenol in any strength are unscientific, and their employment should be considered criminal practice; while the phenol may be used with reckless impunity, in any strength in pure olive or sterilized sperm oil or absolutely pure, liquefied by heat, in the eye, nose, ear, throat, or as a gargle. These uses in oil, and from pure liquid down to any desired strength, hypodermically in forming boils or hemorrhoids are harmless, care being taken not to inject the pure phenol where there is watery or pus formation to reduce the strength to an absorbable degree.

I use almost exclusively phenol crystals, chloral hydrate and camphor, in equal parts. (the camphor and chloral triturated to a homeogeneous liquid and the phenol added), for cutaneous diseases, ulcers or other sores, new or old; and modified with from an equal part to a part and a half of oil to the compound, for catarrh, gonorrhea, and deep sloughing gunshot or other wounds.

Most wounds I have to treat are horrible *machete* gashes, and fearfully frequent in these bloody times. This even among the peons when drunk, one yelling "Viva Madero," another "Viva Orozco," and at it they go, both dying, sometimes, and always one or both seriously wounded. When still bleeding, I swab out the gashes with cotton and fill them with pure liquefied phenol, washing off any chance overflow with alcohol. Then I stitch or bandage the edges together, tapping well with cotton, the hemorrhage always stopping at once—rarely continuing many minutes. Many times, for one unavoidable reason or another, such wounds are never dressed and heal perfectly without one drop of suppuration—an almost invariable occurrence when dressed daily. If not fresh, I use the triple compound after washing out the loose impurities, which speedily destroys damaged particles clinging to the walls of the lesions, instantly developing an impervious antiseptic state, closely approximating that of the pure liquefied phenol applied while the wounds are bleeding.

It is an irrevocable law of the phenol technic that pure liquefied phenol should not be introduced into watery deposits. But any strength, applied regardless of such deposits, when combined with oil, never penetrates the circulation in the slightest degree of absorption, notwithstanding that the quantity may exceed that of a five-percent aqueous solution sufficient to result fatally.

I use externally the triple compound from toe-itch to ringworm on the head, on every class of eruptions, ulcers, sores, the bites of serpents and stings of insects; and, properly modified with oil, for catarrh and sore or inflamed eyes.

The discretionary intelligence of the physician will admonish him when the employment of phenol and its compounds are no longer indicated. Very many cases are met that require but one application of full strength. I use a 5-percent oil application as a disinfecting composition in the treatment of indolent ulcers, which serves me a far better turn than any elegant specialty known to the medical profession. No infectious germ can live in, much less enter, such substance, which retains its virtue perfect long after an aqueous application of the same strength has vanished and dried up.

As singular as it may seem to some and incredible to many, phenol pure or in the triple compound destroys nothing of the clean, quick anatomy, nor penetrates it in the slightest degree. The pure crystals of a high grade may be scooped with perfectly dry hands all day without causing the least burn or other inconvenience; and the blood-serum coagulates with it when liquefied, arresting its action perfectly beyond the mutilated elements of the lesion, thus assuring perfect immunity against danger of infection or tissue damage in any degree, as the protection thus formed is impervious.

Some years since the municipal secretary was shot on horseback by a man on foot from the rear, a 38-calibre bullet striking a fraction to the left of the spinal center, swerving from its direct upward course on to the third lumbar vertebra, thence obliquing slightly downward and passing over the ossa innominata, whence, with a curving swoop, it turned down, lodging in the thick pulp of the thigh, close behind the femur, some thirteen inches below the articulation. This was late in the afternoon. Dr. Maldenado, the family physician, was sent for at once, but as he was twenty-five miles away I was called merely to staunch the blood and guard against collapse.

When the doctor arrived early next morning he found the case so critical that he insisted that I should remain with him. We followed the tortuous course of the ball with a flexible probe, and decided that it would be much more perilous to extract it than to let it rest. The doctor came equipped with up-to-date standard requisites for treating the wound, so that there was no immediate necessity for consultations on that score.

The distressing swath cut through such a broad field of nervous tissue speedily resulted in alarmful suppuration. We dressed twice daily, discussing the prognosis in English over the prostrate man. Ligaments, muscles, nerves and their accessories were decaying at both severed ends, pus running from the mouth of the wound in a vigorous stream when unbandaged to dress, the probe entering their vacuums two or more inches above and below the mouth in close juxtaposition with the bones, while the yet healthy tissue over the cavity was almost transparently thin, the suppuration ever crescent.

The doctor indicated to me that our patient was not more than three days from dissolution. I asked him what better he could expect with the slops he was using. Then for the first time he asked me what else I should have done.

I told him he would never consent to my treatment in such case, but assume the same as the French critics of Brodnax's propaganda did, that it would be as promptly fatal as electrocution. When he heard my dictum he thought the Frenchmen were right, but decided that even electrocution would be more merciful than to permit the creeping death that seemed inevitable.

We put a soft-rubber tube in till it reached the ball and injected the modified phenol compound with an ounce-syringe. The first shot arrested the decomposition in a degree that the suppuration was little more than half the flow at the previous dressing; and, in twelve hours more, the prognosis gave a cheerful promise of recovery. The subsequent improvement was so favorable that Dr. Maldenado left three days later, the convalescence passing uneventfully. Maldenado christened the compound "Unto de

Morales," the name of the patient whose life it saved.

I have elaborately introduced this evidence, because the wound itself was extraordinary in its lengthy meanderings and its cure uncontrovertable testimony of phenol magic, and of its safety in the profound depths of the human anatomy, a full dram of phenol crystals liquefied, with equal parts of chloral and camphor in 5-drams of oil entering at each injection, and no toxic symptom supervening. Here is repeated in milder yet effective operation the active energy of pure phenol on bleeding wounds, the former destroying the autoinfection ravaging the wound, the latter rendering its entrance impossible.

The practical medical mind imbued with a spike of scientific turn will readily comprehend that such protection against any class of infection, and positively excluding even the air from the renovating process of granulation, clearly explains the absence of inflammation and suppuration as well as the rapid and almost painless healing.

Possibly members of the noble and ennobling medical fraternity have the right under an antiquated law and a barbarous rule of practice to torture their patients and endanger their lives by the employment of phenol aqueous solutions; yet I cannot imagine how they can have the heart to persist in such inhuman stupidity under the brilliant sheen of progressive scientific light.

Robert Gray.

Pichucalco, Chiapas, Mexico.

CHRONIC BRONCHITIS AND GONOCOCCI

Chronic bronchitis sometimes is curable, but often it lingers and lasts indefinitely through the years, until finally emphysema, bronchiectasis, asthma or cardiac hypertrophy render the condition incurable.

I have had occasion to follow a certain case, with some intermissions, for a period of fourteen years. At first it seemed to be just a slight bronchial catarrh, without any cough—the only symptom the patient would notice was a slight raising of gelatinous mucus just after a hearty meal. He was then a man of about twenty-six years. Before that time, however, he had had several attacks of acute bronchitis. But when he was around 26, this plug of mucus would invariably be down in the bronchial bifurcation only after each meal, and a quick, short exhalation would bring it up.

At this stage he did not consult any physician; only two or three years later, when, during autumn and most of the winter, the expectoration would become profuse and the cough distressing. Now, here follows a list of drugs and medicines that this man, from one time to another during the years, was advised to take and actually did take: Opium and nearly all of its derivatives, ammonium chloride, syrups of all kinds, creosote, stramonium, turpentine, aconite, belladonna, iodides, codliver oil, calcium sulphide, sanguinaria, strychnine, chloroform, squill, quinine, benzoic acid, iodoform, ammonium carbolate, glycerin, lobelia, bryonia, bromides, ipecac, chloral, hypophosphites, olive oil, senega, digitalis, carbolic acid, tartar emetic, thuja, hydrastis, hyoscyamus, iodalbin. In addition to these, several homeopathic and eclectic remedies, the names of which I now have forgotten, were also pressed into service at various times.

These remedies were used sometimes singly, or two and three in combination, and tried for a month or so at a time, until, not doing any good, the medicament was given up and a new one begun. Outside of this, the patient was given instructions in hygienics, fresh air, deep breathing, exercise, bathing, slapping the chest with cold cloths, and what not.

The patient now became thoroughly disgusted with medicines and their supposed virtues, and for a long time I lost track of him. He drifted over to Mother Eddy and other mental healers, invoking all the magnetic, hypnotic, suggestive, and divine powers for aid, but the bronchorrhea remained the same.

It was then, after about two years of faith- and other healing, that he consulted me again, thinking he must have tuberculosis. This I could assure him was not the case, but to satisfy him I examined his sputum at different times, finding no tubercle bacilli; besides, he was in good general health, appetite, sleep and bowels were in first-class order, and other symptoms associated with consumption were absent. If it had been, the man would have been dead a long time before that.

The only thing left to do, that I could think of, was change of climate: Accordingly he was sent to a more appropriate latitude (this was about two years ago), but even here the bronchitis was no better and no worse; so he concluded to return home, where he had his friends and relatives. I must here state that the patient, now about forty years old, was never greatly inconvenienced by his malady.

Examination of the chest was negative; temperature and pulse were normal, except during acute exacerbations, which would occur several times a year, when cough was harrassing and expectoration profuse, bringing up veritable "oysters" in point of size and looks; but as yet no signs of emphysema or bronchiectasis; urine tests were negative. There was no gouty, rheumatic or syphilitic history.

By this time I despaired of being able to affect this man's condition with any remedial measures whatsoever, when suddenly, one day, the thought came to me that I had not tried the balsamic drugs, which, although recommended by the textbooks, generally are thought of last. And, then, was it not possible that this case, and a good many others, actually was of gonorrheic etiology?

Then I began to ask myself: Is it not possible that the gonococcus could follow the lymphatics and arrive in the bronchial mucosa? The bronchi to the finest subdivisions are lined with ciliated epithelia, which in many parts are really transitional or stratified. We find the same epithelium lining the urinary bladder, ureters, and pelvis of the kidneys. It is plausible that, through repeated attacks of acute bronchitis, the epithelium will in places afford a favorable nidus for the gonococcus; the entrance could be by way of the lymph or blood streams, but also through nasal and laryngeal route, as we know that mere contact is enough for the gonococci to replant themselves; we need not have any abrasion or open mucous patch.

After these reflections I put the patient upon balsam of copaiba—nasty, but time-honored gonococcus foe. Since then he has been markedly benefited, more so than by the legion expectorants heretofore used. In 15-grain doses, four times daily, the action on the bowels became pronounced, so that, with a dozen evacuations a day, I stopped the drug after three days and put him on balsam of Peru, when the bowels again became normal.

Whether this patient will eventually recover under this treatment, I do not know, but that he is greatly improved there is no doubt about. The next thing in order would be to demonstrate the gonococci in the sputum. H. G. Henriksen.

New Market, Minn.

[The balsams are excellent remedies for chronic bronchitis, *especially* when the expectoration is profuse—bronchorrheic in character. But that fact does not presuppose the gonococcus as a necessary cause. Indeed, copaiba is not in any sense *specific* for gonorrhea. It does not kill the gonococcus—it simply provides a less favorable environment for its development. We hope Dr. Henriksen will examine the sputum microscopically with great care, but we predict that he will find no gonococci in it.—Ed.]

RELATIONS SUBSISTING BETWEEN TEETH AND EYES

In *The Annals of Ophthalmology* for October, 1912, W. E. Bruner has a very interesting article on the subject named in the heading. The association of certain eye conditions with changes in the teeth is not a new subject and its recognition long ago is suggested in the term "eye-teeth." Dr. Bruner's paper concerns itself more particularly with the production of ocular disturbances or diseases from abnormal conditions of the teeth, and these he divides into two classes, functional and organic.

The functional disturbances may be produced by abscesses or disease about the roots of the teeth or by an impacted tooth, and such reflex effects are found more frequently when the teeth of the upper jaw are the ones at fault. The effect upon the eye on the affected side may consist in disturbances of the pupil or the motility of the iris, in restriction of the range or complete paralysis of accommodation, spasm of the orbicularis, disturbance of the muscle balance, asthenopia or amblyopia (with absence of ophthalmoscopic findings), all of which are entirely relieved upon removal of the cause of irritation.

The author cites Coopman's interesting case of blepharospasm, from physiologic eruption of a tooth, occurring in a healthy child of three who made no complaint about the teeth. After five days of marked blepharospasm, examination disclosed a slight swelling back of the second temporary molar. Incision over the permanent molar caused the spasm to disappear.

The author himself has seen cases of strabismus, asthenopia, and other symptoms which occurred either during the eruption of the teeth and disappeared when the tooth was through the gums, or which occurred while children had their teeth straightened and disappeared when the braces and all pressure had been removed.

Blindness following the extraction of a tooth has been reported. Organic, or structural, changes in or about the eye, resulting from the teeth, have been observed in many varied forms; and inflammation of almost every structure of the eye, depending upon or at least attributable to dental trouble, has been reported. The author mentions a case of abscess of the orbit which stood in relation to an abscess about the root of a tooth. Ulcers of the cornea of various types have been attributed to the teeth by various writers. The possibility that an intractable keratitis may be due to reflex irritation should also not be lost sight of.

Pyorrhea alveolaris has not infrequently been found to be a cause of ocular disturbance. An important point in reference to this and to other septic conditions about the mouth is that, when such is found in a patient upon whom an operation upon the eyeball is contemplated, it is most important to correct this septic condition before proceeding to any operation. Knapp reports a case of blindness from periostitis originating from caries of the teeth extending to the floor of the orbit, where it caused some thickening and involved the optic nerve within the canal.

The remarkable fact upon which the author lays particular stress is, that not infrequently the patient is wholly unconscious of anything wrong with his teeth, and he will state that the latter are examined regularly by supposedly competent dentists. The author has grown to be suspicious of a mouth showing numerous gold crowns and fillings, and he places great weight upon an x-ray examination, which he insists upon when he does not feel certain of the work previously done. He has thus succeeded in several instances in finding abscesses at the roots of teeth, or improperly filled roots, where nothing wrong was suspected by the patient, with the result of securing relief of the ocular symptoms by treatment of the pathologic dental condition.

ACTIVE ANTIDIPHTHERITIC IMMUNIZATION OF CHILDREN

The problem of active immunization for the purpose of protecting especially children against acute and chronic infectious diseases is an important problem of prophylaxis and public hygiene. The vaccination against smallpox has proved the feasibility of the proceeding and the efficiency of the method in spite of all that has been said against it, even if due credit is given to improved methods and habits of sanitation and hygiene which in themselves contribute to reduce the chances of the widespread distribution of infectious diseases. In recent years we have heard of attempts of vaccinating children and adults against tuberculosis, a problem, we hope, that will soon be solved.

In the case of children's diseases, the matter is rather more difficult, and at present isolation is still the only known method at command for protecting children from infection, although in the case of diphtheria we frequently make use of a prophylactic immunization by the injection of small doses of antidiphtheritic serum.

Unfortunately, an immunity produced in this manner, that is, a passive immunity, does not last very long, in contrast to the results of active immunization, which is claimed often to be efficient through life.

Such an active immunization is developed when the organism forms its own protective substances, not as in passive immunization, in which the substances developed in the animal organisms are injected into the child (antidiphtheritic serum) or by the production of a slight bacterial disease by injecting a small amount of attenuated or killed microorganisms. This bacterial disease can be induced in an attenuated form, so that it is harmless for the organism, without materially attenuating the immunization, and it is well known, as already mentioned, in the vaccination against smallpox.

Diphtheria is a serious and dangerous disease, principally because the diphtheria bacilli, which are localized in the mucous membrane, flood the organism with their toxic products of metabolism, the socalled toxins. The patient recovers if his body has the strength to detoxicate these substances, i. e., when it is capable of forming sufficient protective substance, or antitoxin. It is a matter of course that the disease can not develop at all if the antitoxins are already present during the invasion of the infectious organism; that is, if, by a previous active immunization, the organism has been put into a condition successfully to resist the invasion of the bacteria.

S. K. Dzerjgowsky claims that such a protected condition may be produced by causing a slight diphtherial disease without diphtheria bacilli. He introduces, once a day, cotton tampons saturated with pure diphtheria toxin into the nostrils, leaving them in place for one hour. In the mucous membrane a condition of congestion is produced, and in a considerable number of instances false membranes are formed; on the other hand, the author never observed fever or other disturbances. In his clinical experiments (reported in (*Jahrb. f. Kndheilk.*, Vol. lxxiv, No. 2), Dzerjgowsky demonstrated, after this treatment, notable amounts of diphtheria antitoxin in the blood of his patients.

Blumenau modified this method in so far as he employed the toxin diluted. In this manner the irritation of the mucous membrane is avoided and antitoxin formation in the blood is stimulated satisfactorily. Blumenau believes that his method will be useful for the immunization of school children, of the inmates of asylums, and the like.

HEROIC TREATMENT OF PUERPERAL SEPTICEMIA

On May 19, 1912, I delivered a woman of a fine girl baby. She is twenty years of age and mother of three living children. This time she was in feeble health the last three months of pregnancy, but I did not attend her. She has had a cystic trouble for some years. This last baby came at full term without any trouble, and the placenta was partly expelled into the vagina and was removed without difficulty.

I always bathe my hands thoroughly in hot bichloride solution before delivering the placenta, and generally am careful about seeing that it is intact, but this time there were some pieces left.

On the second day following confinement, I was hurriedly called and found the woman suffering intensely from retention of urine. This was relieved by the use of the catheter. The next day we had to do the same thing. This time I irrigated the bladder with boric-acid solution, and no further trouble was experienced. About the sixth day there was evidenced tenderness in the region of the uterus, some headache, and some foul odor of the lochia. I ordered a mercurial cathartic, also hot douching. On the ninth day she had a hard rigor, rapid rise of temperature (to 103.5° F.), the pulse was rapid and weak, and there was general weakness with fainting on exertion; also tenderness in the region of the uterus, cervix, and vaginal wall. She showed all the signs of profound septicemia.

I began the treatment with calomel to effect, followed by a laxative saline; and calcium sulphide, 1-2 grain, to effect, then less often. Strychnine sulphate, 1-30 grain, every three hours till effect, then less often. Also irrigated the vagina and uterus with hot boric-acid solution, and swabbed out the uterus with alcohol; then packed the uterus and vagina with iodoform gauze.

A doctor of a neighboring town was called in consultation, and we gave her 40 Cc. of antistreptococcic serum, repeated in six hours. In fact, we gave the serum in from 30 Cc. to 80 Cc. doses, until all the severe symptoms disappeared. We gave it every six to fifteen hours. At times we would run out and there would be a delay before we could get any more. Because of this fact we had to use more than we should have used ordinarily. We used 1460 Cc. in all.

I want to say that the serum is the thing to use in these cases. I would not treat any case of septicemia without it if there was any possible chance to obtain it. I noticed that the fever would drop considerably after its use and the patient would rest better. We pushed the serum until we got the rash.

The fever ranged from 100° to 105.5° F.; she had several rigors; came very near having abscess of the liver twice; also in the spleen once, and in the walls of the vagina.

The other remedies given were strychnine sulphate, 1-30 grain, every three hours till effect, then less often. Saline laxative every morning, to move the bowels thoroughly. Enemas of normal saline solution about every eight to ten hours. Aconitine was also given for the fever and to quiet the heart's actions. All these remedies, with the exception of aconitine, were pushed to their effect.

Regular douching was done night and morning with hot bichloride solution, and we packed the uterus and vagina with bichloride, iodoform or borated gauze. At first the vaginal walls were so edematous laterally and anteriorly that one could reach the cervix only with considerable difficulty. But after the free use of pure tincture of iodine to the surface of the vagina, also to the uterine wall, the swelling subsided. At one time I painted the uterine wall with pure phenol and then packed the uterus with iodoform gauze.

Well, with the heroic use of antistreptococcic serum, calcium sulphide, strychnine, aconitine, and the sulphocarbolates (which I forgot to mention earlier), the fountain-syringe, bichloride tablets, lysol, phenol, and iodine used freely with the gauzes; with many things done by loving hands; all followed by the triple arsenates, and the elixir of iron, quinine and strychnine, and nitrohydrochloric acid, the woman is able to be up and about now.

F. S. Babbott.

Blair, Okla.

[We are glad Dr. Babbott brought out so strongly the value of antistreptococcic serum. His medication was excellent.—Ed.]

BUT THE GREATEST OF THESE IS CHARITY

The dictionary defines "charity" as "love toward our fellow men; goodwill; a disposition to look kindly or charitably upon the actions or defaults of others; any act of kindness or benevolence." The last one of these clauses defines the word "charity" as we shall amplify its meaning in the following appreciation of an accidental opportunity that culminated in a new style of church organization and which for now several years has done splendid practical charitable work.

About 1900, in a city of much wealth and refinement and many beautiful and valuable religious edifices, there resided a physician whose beautiful Christian helpmate was superintendent of the primary department of one of the largest of that city's churches. One of the customs of the teachers in that Sunday school was to invite their "men folk," on one day in each week, to lunch with the ladies in the "parlors" of the church, "at two bits per"; and after lunch it was customary to mingle in general conversation for a while.

During one of these "mixed seances," so to speak, the physician mentioned overheard some of the ladies bewailing a lack of interest, upon the part of a majority of the other ladies of the church, in the various auxiliaries. Eminently practical as was that physician, though by many who did not understand him believed to be a dreamer, he did not hesitate an instant, when asked for advice, to give it.

"Ladies," he said to them, "my vocation probably shows me more of 'the seamy side of life' than is generally known to the average man. It shows me many very poor but worthy prospective mothers absolutely destitute of the initial wardrobe for the baby. Many of these babies anticipate the natural period of gestation and consequently find the mother unprepared, though possibly she is financially able, in a small way, to care for her progeny correctly; others, however, are taken unprepared, because of absolute poverty, even for the natural birth.

"My vocation also, unfortunately, often brings me into the presence of the inevitable. There, because of some natural law—defied, possibly, through carelessness or ignorance, or both, upon the part of parents or physician, or both—I have more than once found mothers in the habit of laying away 'baby's clothes,' where, upon occasion, they are wont to visit them alone, and alone 'sob out their hearts' in slient grief.

"What do you ladies really want, in the form of a charity that will help both you all and the poor prospective or real mother, better than an organization which shall have for its purpose the accumulating of 'baby wardrobes' for the very poor? How much better would you all feel if, right now, those of you who have been accustomed to keep your own griefs alive by such visits and you who have never suffered thusly—how much better would you all feel if, right now, you decided you would form such an organization and for a nucleus each add your mite by contributing for the sake of the helpless mother those garments which must become more sacred if helpful to others?"

That was all for that time. That practical dreamer then forgot his dream and went his way. Not so, however, those ladies.

One wintry day, several years after that, when sickness in his own household had required removal to the country and propinquity and convenience had made transfer to another church expedient, that same physician, answering a professional call upon the child of one of that same group of ladies, found many of those ladies gathered in the reception hall as he passed through to see his little patient.

Social etiquette admonishing a short chat with that same group, as he passed out from the sick-room, and curiosity prompting the question—possibly a natural one—"Why are you all gathered here today, which of your many church auxiliaries is this one?" there came the prompt, yet pleasantly surprising reply: "Why, *you* ought to know, for *you* suggested it; this is the 'Baby's Wardrobe Society,' and it's been helping the poor mothers ever since that luncheon we all had together that day down at the church."

And that was a fact. And that society is still doing that practical kind of charity today—so far as the writer knows. And it all sprang from many sad experiences in the life of a practical dreamer. And one of his dreams has come true.

Why, may I not ask, can not the physicians, readers of this article, on just one other physician's experience (especially physicians located in the larger cities, where real poverty is so much oftener in evidence), relate this one experience for the sake of their lady friends who are ready, but oftentimes do not know when, where or how, best, to show such a real charity?

Why was the writer himself ignorant of such society? Because his general practice had been abandoned and special work assumed, because of a forced country residence, and because such residence removed him from association with those particular ladies who, though admonished by him at the time, to request the physicians of the city to help them to help others to help themselves, never asked him, as they knew he had given up the kind of practice which would further their cause.

Fraters—tell your wives of *this* form of practical charity. If mothers, *they* will know what to do with the thought.

Anon-Y-Mous.

——, Texas.

TUBERCULOSIS, MOUNTAIN AIR, AND OZONE

It is now an accepted fact that high mountain altitudes are the best for consumptives and that for the city dweller too poor to escape to bracing Colorado the best place is the out-of-door sleeping-tent and an all-day absorption of the freshest air and most direct sunshine.

It has commonly been considered sufficient to explain this by stating that the purest air is found only in such places. A few daring doctors have suggested that the stimulating effect of ozone is a factor. The evidence in support of that view is strong. Before discussing this evidence, however, let us consider what ozone is.

Oxygen, the active fifth of the air, may be changed to a much more active form, called ozone, when this oxygen is excited by high-tension electric discharge and certain other influences. The smallest particle of oxygen gas, called the molecule, is composed of two atoms—we will call them bricks for convenience. When these pairs of bricks—oxygen molecules—are sufficiently agitated by high-tension electrical stress or ultraviolet light they may rearrange themselves in threes instead of twos. These new molecules of three bricks each are called ozone molecules, which are much more active in attacking filth and bacteria than plain oxygen.

Valuable though it is in nature, ozone does not last long near the surface of the earth. As long as there is filth to attack, ozone is consumed. Heat breaks it up, as does moisture. Obviously cold dry air far from the dust and dirt of cities is most favorable to its preservation. Such conditions are best found in our "Rockies."

A year's observations by the author indicate that in the eastern lowlands and plains the greatest amount of ozone is found when "high" barometric areas are near. In such areas the air is rapidly falling from great heights to the surface and spreading in all directions. This means a quick transfer of upper air to the surface, and shows plainly that there must be a far larger amount of ozone in the upper strata than near the earth.

Considerable evidence indicates that most of this ozone is made by the action of the short ultraviolet waves of sunlight upon oxygen. These shorter, invisible waves are so easily absorbed by the atmosphere that most of their effect is confined to the upper strata. Colorado presents ideal conditions for the victim of pulmonary tuberculosis—it is near to the upper regions where sunlight makes ozone and where the cool dry air preserves it.

The effect of too much ozone in the lungs is injurious—irritating; its oxidizing action is too vigorous. A little, however, such as one finds in the most invigorating air—about one part in one million—is stimulating to the nerves in control of circulation and respiration and a tonic to the whole system. The ozone-machines now on the market easily demonstrate this. A poorly ventilated room that confers on everyone in it that stuffy, stupid feeling and a headache is quickly transformed by a small electric ozone-machine. The organic poisons thrown out by the lungs—air sewage—are oxidized to harmless products and the system invigorated to deeper breathing.

In Europe such treatment is being applied to incipient tuberculosis, anemia, whooping-cough, and other diseases. It must be admitted that ozone in sufficient concentration rapidly to destroy bacteria is dangerous to man; so the beneficial effect is due only to the destruction of organic filth on which bacteria feed and to the ozone stimulus to the respiration and circulation.

Harry N. Holmes.

Richmond, Ind.

CHRISTIAN SCIENCE IN THE ZONE. CACTIN FOR SEASICKNESS

In the January, 1912, number of The American Journal of Clinical Medicine, page 5, under the caption of "Therapeutic Freedom," we read that Senator Works, of California, is much concerned because President Taft excludes the practitioners of Christian Science from the Canal Zone, for that is practically what the President's proclamation does. "There is a reason."

On one of my voyages between the Isthmus of Panama and New York, less than two years ago, there sat at my table a group of Christian Scientists, while their latest victim lay oblivious to earthly affairs in a casket in the hold of the steamer. This unfortunate had been taken ill in one of the towns of the Canal Zone and had been "treated" by members of the aforesaid group. They had not considered it necessary to report the case to the medical authorities. The patient died. Still no report was made. The matter came to the notice of Colonel Gorgas, I was told, who ordered an autopsy, and the diagnosis of blackwater-fever was made. An eyewitness told me that the body of the deceased was jaundiced.

Now, this might just as well have been "yellow-jack," with all the attendant conditions favorable to wide-spread dissemination, since these near-wise ones would never know enough to protect the patient in the first three days of the illness from the approaches of the stegomyia.

Is it to be wondered at, then, I ask, that those responsible for the organization and maintenance of that magnificent sanitary work should resent the mischievous meddling of socalled Christian Scientists and object to having the general health of the zone menaced by these irregulars?

To change the subject. In the matter of cactin, of which drug a small quantity was sent me for use in seasickness, I have had occasion to use it in several cases, and decided benefit resulted; still, I wish to get wider experience before making a more definite report.

Anesthaine works excellently, in my experience, in minor operations and in extracting teeth, with the exception that I have not been able to produce more than partial anesthesia when abscess at the root has been present. This was well shown in a late case, where teeth in the upper jaw, both sides, were thus diseased and in which extractions were far from painless; while, on the other hand, in the same patient the extraction of a molar from the lower jaw, abscess not being present, was quite painless. The same procedure was used in both the upper and lower jaws in applying the anesthaine.

A word on carsickness. In my family there is a young lady of twenty-five who has always suffered severely, during street-car or railway journeys, from vomiting and prostration. Two years ago it became necessary to perform appendicectomy. She recovered promptly, and now is entirely free from the aforementioned tendency. This for what it may be worth. S. Austin Davis.

Brooklyn, N. Y.

[Dr. Davis is surgeon on the Lampert and Holt steamship line, between New York and various South American ports. He has had an extensive and varied experience.—Ed.]

REMINISCENCES OF LIFE IN THE BRITISH ARMY

(*Continued from the October issue.*)

We arrived at the Cairo Citadel in October, 1884. While there, I found plenty of time to look around. The citadel really is a fortress and is built on high ground and commands Cairo City. Inside of the citadel is to be seen one of the most beautiful mosques in the Mahommedan world, which is named Mahomet Ali's Mosque.

A few yards away from the mosque Jacob's well still exists. Once I threw a stone into it and found that it was about thirty seconds before I heard the splash. There is a secret winding stairway down to the water's edge, and here the well-wheel still stands, and there also is an inscription in a language unknown to any but the keeper of the well, who, I presume, is a direct descendant of Jacob. He will take anyone down for a piaster (5½ cents). I went down once, accompanied by a colleague, and it was a quarter of an hour's jog-trot, but it took us half an hour to climb out of it. The passage is so made that daylight is seen all the way down and there is no foul air. There were no steps but a gradual slant, the earth there being what is termed gardener's mold.

From the batteries of the citadel a beautiful view presents itself. As one is looking toward Kasr-el-nil, the city with its stately palaces and gardens and mosques meets the eye; at the back the great Sahara Desert, with the heights of Mokattom and its red-painted fort, on whose single turret flies the red flag of Egypt, with the white crescent and star in its center; on the east side is to be seen a small town, with its palace four miles across the desert known as Abasseyeh, and, if you had a field-glass with you, you might see an encampment of Beduins or desert thieves, or perhaps a caravan of camels guarded by Arabs armed to the teeth and their rifles across their saddles.

But looking toward the west is the most beautiful sight of all: as far as the eye can reach all is sand, about four miles from the citadel is the river Nile, and a few miles beyond are the two sets of sphinx and pyramids. The first set are those of Gareh, and the kings (pharaohs) are buried there. The second are those of Cheops, and here are buried the royal descendants of the pharaohs. To see them at a distance, one would think that they were built to a point, but such is not the case. About twelve persons can have footing on the top of these pyramids. It takes about four hours to ascend one, and you require three helpers, two in front and one behind.

The diseases most prevalent among the natives, especially in the outlying villages, are purulent ophthalmia, smallpox, leprosy, and the worst of all calamities, the bubonic plague. In the last-named disease hypodermic injections of sterilized echinacea should play a prominent part, and, if I were to return there, I should take along a large supply of this drug (Lloyd's for preference), and also euphrasia for the ophthalmia, as I consider that it also has antiseptic properties; for I have used it externally on a native here for purulent conjunctivitis, where the other medicos could do nothing. I have used it for a number of years, getting the dried plant in packets from Parke, Davis & Co., and making a concentrated tincture with alcohol as I require it, and I am certain that besides being tonic and astringent it also has antiseptic properties.

For the leprosy I use chaulmugra oil internally, from 5 to 20 minims, gradually increased, several times daily; and the gurjun balsam externally.

Among the troops, dysentery and diarrhea were caused either by drinking unfiltered water or eating too much fruit.

Cholera and plague of course were epidemic.

Febricula, and enteric, remittent, and intermittent fevers were not greatly in evidence. These were caused mostly by lowered vitality or by drunkenness and exposure, as the night dews are very heavy here. There were several cases of sunstroke and a few were fatal. These cases mostly occurred in the morning.

Venereal diseases were rife among the troops, predominatingly gonorrhea; and there were a few cases of chancroid, due either to uncleanliness or to vice. Syphilis was rare. It was a crime for a soldier not to report "sick" if he had venereal infection, and so it was possible to check it before it went too far. Only one case of gonorrheal ophthalmia came under my notice, that of a gunner in the artillery, and he lost the sight of one eye through rubbing his eye with his hand while, I presume, dressing his penis when suffering from gonorrhea. Women of every nationality were to be found here and the majority of easy virtue. Drink was dirt-cheap (women and wine going together); a whole pint of wine, brandy or vermouth could be had for one franc, which is twenty cents.

One of the most interesting things of note were the donkeys and their keepers. These animals are the size of ordinary ponies and are taught numerous tricks.

The military pickets are sent out to take to the guard-room, under escort, those soldiers who misconduct themselves, or are violently and incapably drunk. When a soldier wished to escape these pickets, he would employ a donkey and its driver. If the soldier refused to give extra backsheesh (money) as soon as the donkey got opposite the guard-house, the driver would say something to his donkey and down the critter went on its knees, and, plunck, the soldier would go over the donkey's head. Then there would be some choice "Italian." The guard would come out and collar the poor soldier and put him in the guard-house, where he would be charged with drunkenness and in the morning be taken under escort to his regiment and taken before his commanding officer and fined or otherwise punished; but if he acceded to the driver's demands he would reach the citadel safely and pass the barrier guard unnoticed.

One day orders came for the troops to proceed to Sonakin, where war was in progress —but more anon. F. A. P. Montagu.

Auckland, New Zealand.

THE PRACTICE OF MEDICINE

I know a practitioner who says that he can do anything that any other doctor can do. And he *believes* he can—but I do not. He has no more idea of what is meant by the practice of medicine than a child. His idea is that the practice consists in knowing how to take the temperature, examine the pulse and "dose out" calomel and quinine. He fully believes that this is about all there is in the practice of medicine. And the average layman has about the same notion.

This is why the charlatan succeeds. If the laity knew as much about medicine as does the educated, well-informed physician, then our calling would collapse. Every man would be his own doctor. I would like, if I could, to put before the Clinic readers the magnitude of the practice of medicine. I would have the reader try to understand what is meant by the practice of our profession.

Every thinking doctor has an idea that *he* is practising medicine—but is he? Is it not a fact that most of us are only doing what the layman considers practising medicine? We take the temperature, examine the pulse, and "dose out" our calomel and quinine.

The Master Builder who made man well understood his business. He was not only a machinist of the highest type, but he was a chemist, an anatomist, a physiologist; not only this, he was a pathologist, a surgeon.

Did you ever notice an amputation made by nature; and do you understand how the work was done? How many processes of nature do you comprehend? Can you explain the *how* of digestion and assimilation; the *how* of oxygenation of blood; the processes of repair? Do you really comprehend fully any of the processes which occur in the practice of medicine?

Do you know how the calomel and quinine bring health to the patients you prescribe for? You say "No." You go on: "I prescribe for certain well-known conditions commonly called 'biliousness', and the bowels move freely and the fever subsides and the patient gets better and pays his bill, and *that* is what I am looking for. The *how* does not interest me so much as the result, and what I mean by result, is *money*. I am not practising medicine for my health. It is the 'bucks', the 'doughnuts'—do you see?"

Oh, yes, I see, and I see a little further. I see the practice of medicine put on a level with the business of the street-peddlers of herbs and bitters. The cheapjohn sells so many bottles of herbs and bitters for so much money, and if he gets the money, that is all there is to it and that is all he cares about it. He is called doctor, and so are you, and what is the difference between you twain? He sells bitters, you sell quinine. He knows how to combine herbs and bitters and to sell them; you know how to dose out calomel and quinine and charge for it. Both of you are practising medicine. Are you?

How do you like the picture? You would have Mr. Cheapjohn arrested and fined for practising medicine without a license, would you not? And you would charge him with getting money under false pretense? But did it ever occur to you that *you* are doing the same thing? If you know practically nothing more of the practice of medicine than how to dose out calomel and quinine and you are on the dress parade as a physician and surgeon, then are you not getting money under false pretenses, eh?

If the practice of medicine consists of nothing more than a scheme to make money and to offer the shortest route to get a dollar, with the relief of suffering humanity a secondary consideration, then there is no magnitude about it. It then is merely a form of commercialism and worthy of no more consideration than horse swapping—not even that, for the horse swapper shows his goods and gives you an opportunity to examine them, and there is some show for a square deal. But when you convert the practice of medicine into a trade, there is no show for your victim. The sick man is entirely at your mercy. He must take your word, risk your judgment, and rely upon your honor, whatever the result may be.

What is the value of a life? Of your life? When the monster (death) knocks at your door, what about the practice of medicine then? What kind of doctor do you want to take charge of your case? Would you like to have a few doses of quinine and calomel as the only barrier between you and the grave? Eh? Think about it.

You have fought a good fight and you are worn out and your time is about up. Your heart is weakened, your blood-vessels hardened, your muscles flabby, your skin dry, your kidneys and liver torpid, and you are so weak that calomel may land you in the boneyard and quinine would only increase your deafness. How about it now? Can you not realize the importance of having as your doctor a man who knows something of pathology, one who knows something more than the tongue will manifest, one who has other resources besides your calomel and quinine? Suppose, again, that your wife or your daughter is in the throes of puerperal convulsions—how about herbs and bitters now? What will your calomel and quinine do here?

Let me tell you something and make a long story short. If you are not able to do more than prescribe calomel and quinine, you are comparable to the old midwife who can manage any case of obstetrics where there is nothing to do, but who is entirely helpless where something ought to be done. You are not practising medicine, you are only pretending to; and if you are satisfied to continue in this rut and will not study medicine and properly prepare yourself for practicing it, you are a fraud and should have your license revoked. Awake, my brother, and see yourself as you are, and go to work. Learn to practice medicine.

W. P. Howle.

Charleston, Mo.

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[Dr. Howle's little homily is one which all of us should take seriously to heart. The practice of medicine is one that involves grave responsibilities. The time is past when any honorable practitioner can depend upon an undeviable routine in the management of his cases. Progress is being made in our art at a rate that is almost beyond comprehension to the layman, and, I regret to say, to many who call themselves physicians. It is something more than a *convenience* for the practitioner to be conversant with this progress—it is a duty, so imperative in its character that ignorance becomes virtually a sin against society.

There is no excuse for ignorance. The opportunities for knowledge are now at the door of every practitioner, and failure to perfect himself in ninety-nine cases out of the hundred can be attributed to one reason only —laziness. Slip-shod methods in diagnosing and treating disease (another term for laziness) are responsible for most of the mistakes in practice, and it is these mistakes that cause the sacrifice of life. Thoroughness in all clinical work is the great necessity. Diagnosis should mean more than the routine taking of temperature and feeling the pulse; it should mean the securing of *all* the information concerning a patient which it is possible to obtain—knowledge which involves the use of instruments of precision and resort to the help of the clinical laboratory. Treatment should mean something more than the routine giving of a cathartic and the textbook tonic; it should be the intelligent effort to meet every deviation of function with the remedies best suited and used in the most intelligent way.

The best practitioners are those who know most about their patients—who have studied them, and mastered the means for their diagnosis and their relief. Routine is a great enemy of success. Intelligent industry—thoroughness—is the best cure for failure.—ED.]

OCCUPATIONAL NEUROSES

At the Fifteenth International Congress of Hygiene and Demography recently convened in the national capital, before Section Four, Tom A. Williams, M. B., C. M. Edin., of Washington, D. C., read an instructive paper on occupational neuroses, of which the following is a brief abstract.

In the first place, the term neurosis, the speaker held, is a misnomer; for the socalled neuroses of occupation are strictly psychodynamic inhibitions of disorders in the habitual series of coordinated associations gained by education in some art. That want of harmony in the controlling of the mechanism is the fault, and that the disharmony is always psychological, was asserted in the introduction to a series of studies of cases of occupational "neuroses" deliniated in detail.

Many cases of various forms of occupational or professional neurosis, including traumatic neurosis of railway and industrial accidents, were described. In these were shown the necessity of addressing the treatment to the psyche, or the mind, of the patient. "It is not an incapacity of muscle and nerves to perform their functions, for this is intact except for performing the particular professional acts which fail." Four of the cases described were those of writer's cramp, the commonest occupational "neurosis."

One of the cases described was that of a navy paymaster who suffered with writer's cramp, or palsy, to the extent that he was unable, as the day progressed, to write his signature legibly by the time afternoon had arrived. At the patient's first interview with the physician the former was brought to appreciate the psychogenesis, or mental origin of the trouble. The patient with this fact clearly in mind and through his own efforts, as directed by the physician, entirely recovered within a month's time. Another case of writer's cramp was shown to have arisen entirely from impatience, on the part of a woman, of routine letter writing. After a somewhat longer period than in the first case, her writing was practically normal. Two cases of telegrapher's cramp were also described.

The chief difficulty in treatment is to persuade the patient that his disorder is not physical, as he has been told so so often. When this is done, graduated exercises accomplish the cure.

REMARKABLE RECOVERY AFTER COMPLETE EVISCERATION

In *The Canadian Medical Association Journal* for June, 1912, Dr. Thomson, of the Canton Hospital, describes an interesting case of attempted suicide in a Chinese broommaker who had failed in business. He had injured himself with the aid of a razor, and there was no doubt about the sincerity of his efforts or the keenness of his razor. Upon admission to the hospital, he was just recovering from shock. His pulse was rapid and wiry; skin, moist and cold; he was conscious and complained of severe pain.

Uncovering the abdomen, there came to view yards of small and large intestine, the stomach, omentum, and most of the liver, all completely eviscerated, mixed with blood, and rubbing against his dirty winter-clothing. Across the abdomen there were eight gashes, two of the wounds, each twelve inches in length, completely opening up the abdomen from side to side. The upper one severed the lower costal cartilages, the abdominal muscles, the peritoneum, and made four long and deep cuts into the substance of the liver. There were also several wounds in the stomach down to the mucous membrane, but not penetrating. The lower cut severed the muscles and peritoneum, but did not injure the adjacent abdominal organs. The stomach and bowels were distended with gas.

Under chloroform narcosis, the abdominal organs and the entire wound were cleaned up as well as possible and the wounds in the liver and stomach sutured, the air from the latter being expressed manually by way of the esophagus. A great difficulty was encountered in restoring the organs to their proper places in the abdominal cavity but the doctor finally succeeded and pulled down the omentum, covering the other organs. It was absolutely impossible to bring the margins of the wound together by sutures, an interval of about an inch and a half being left through which the omentum showed. This gap was covered with gauze and gauze drainage inserted.

In the evening of the same day, the patient cut his throat by means of a piece of glass which he had obtained by breaking a tumbler. He had made a deep gash through the middle of the neck about an inch and a half wide, perforating the cricothyroid membrane. This wound was cleansed and sutured. The abdominal wounds were dressed daily and the patient treated with strychnine, normal salt solution, and so on.

As was to be expected, the patient became much emaciated and showed late symptoms of shock, although the temperature never rose above 99.5° F. Suffice it to say, that on the twentieth day the temperature was found normal, pulse 90, the appetite was voracious, in place of the early enormous expectoration, this was only slight, and there was left a large granulated gap in the abdomen to be closed by operation later on.

THE DOCTOR'S DUTY

It was August, 1910. The weather was hot, mercilessly hot, following a few showers that filled the water-holes and ditches. The festive mosquito was abroad in the land and there was sickness everywhere. For three weeks I had been constantly on the go, and for three days and three nights I had not been at home at all. On the evening of the third day I got home at ten o'clock, mentally and physically exhausted. Turning my horse into his stable, I left the door open and said to him: "Old fellow, you can go tonight, I am going nowhere, no matter what the trouble is."

Going into the house, I found the children all asleep. Their mother was sitting by a table sewing on a little garment that spoke of coming events. After greeting her I said:

"Mumsie, don't tell me of any calls. I am going nowhere this night. I am completely tired out, more so than I ever was in my life."

"No, indeed," she spoke back, "you are not going to go anywhere tonight, and not for several days and nights to come. You are killing yourself for these people, and what do they care for you? Nothing! They are ungrateful; they don't pay you—and you know it."

After a bath and a light supper and a short talk with my wife I went to bed. Just as I was dropping off into a deep sleep I heard, "Doctor, doctor, oh doctor!" at the back gate.

I pretended not to hear. The calling continued, when my wife came to the bed and gently shook me and said: "Somebody is calling you at the back gate, but you are *not* going; you are only needlessly killing yourself for these people. Go out and tell the man that you can not go. You can send some medicine, but you must not go."

Getting into my slippers I went out. It was Jeff Wright, and he said to me: "Doctor, Arch Beard came to my house an hour ago and asked me to go and tell you to come to his house as quickly as you could. His twins were dying. He did not believe that you could do them any good, but, please, to come as quickly as possible."

I said: "Mr. Wright, I have been up for three nights. I am dead-tired and, besides, both of my horses are out in the big pasture and forty men and a boy could not catch them at night."

The man persisted: "Doctor, he was crying and seemed awfully anxious for you to come. I wish you would go."

I told him to wait a moment—I intended to go even if I had to ride the messenger's horse. Going in I said: Mumsie, it is Jeff Wright, and he says that Arch Beard's twins are dying and Arch wants me to come immediately; but I am not going, for I am dead on my feet. There is a limit to human endurance and I've reached it."

Then coming over to me and putting her hand on my shoulder, this wife of mine pleaded: "But you are going, dear; of course, you are! Suppose one of our own children were dying, and you were away, and I sent for Dr. Simrall, and he sent me word that he was 'dead on his feet and could not come'—what would you think? You *are* going."

"But, Mumsie, all of our horses are out and you know that I can not catch them."

"Julien's pony is in the orchard, you can ride her. So, now hurry and I'll help you."

So, in but a few minutes I was off, riding the pony, a springy-back trotter. For nine miles we went, every foot of it a bridle-path. Up hill and down hill, through cave hollows and across ditches and creeks we went, never stopping a moment. Jeff Wright stopped at his home and I went across the bottom to Arch Beard's.

Dropping the pony's bridle, I went into the house. Mrs. Beard was sitting by the fireplace crying and Mr. Beard was sitting by the window looking out into the night. Said he, "Doctor, you are too late, they both are dead."

The two little children were lying on a quilt on the floor, dead, so it seemed. They were wet from head to foot, from a vain effort made to resuscitate them, and were as cold as ice. I could find no pulse-beat. Raising their eyelids, I could see only the whites of their eyes—spasm. I knew now that they were not dead. Then I said, "Arch, they are not dead, and if you will help me we shall save them."

In a moment everything was activity. I gave them a dose of atropine, hypodermically, and got them into dry wrappers and on a dry quilt. I then gave them each a full enema of warm soapy water. In a short while this returned, bringing an enormous mass of corn, cabbage and beans. They had spent the day with their grandmother, and this was the first of such food they had ever eaten.

I then gave them, by enema, six or eight grains of chloral hydrate, and had their arms and legs rubbed vigorously. In a little while I could see the blood coming back to the surface and that the congestion was being relieved. In about one hour they were quietly sleeping—saved. There was a happy father and an overjoyed mother.

After fixing up five or six doses each of calomel and of soda, I lay down at 2 o'clock in the night, on a pallet on the gallery, and went to sleep. I was awakened by the sun shining in my face. After starting them both on a solution of intestinal antiseptic and fixing them a solution of aconitine, to be used in case of fever, I left for home, riding the little pony, unmindful of the loss of dignity thereby, but happy in the thought of duty done.

C. S. HYLAND.

Yokena, Miss.

ACUTE INFECTIOUS JAUNDICE, OR WEIL'S DISEASE

Acute infectious jaundice is a disease characterized by yellowness of the tissues, fever, muscular pains, severe vomiting, and enlargement of the liver, and doubtless is caused by a specific microbe. It is supposed to occur in the summer months, although an epidemic in my vicinity occurred during extremely cold weather. This epidemic gave me opportunity for study. The symptomatology was as follows:

The disease is announced as follows: The child is listless and wants to lie down. There is more or less severe headache. The temperature in a few hours ranges from 102° to 105° F. The temperature in five patients remains elevated from a few days to one week. There is a general aching. No chills were observed. There is loss of appetite and often severe explosive vomiting for the first few days; this occurs at any hour of the day or night, the parents being aroused to find the child vomiting over the bed or floor. Water and food often produce immediate vomiting. The throat is sore. The stools are clay-colored, and this condition persists for a week or ten days. The urine is dark of color. Prostration is marked. The itching of the skin is intense and requires treatment.

An early symptom is abdominal tenderness, especially over the region of the lower border of liver and right of umbilicus. This abdominal tenderness is quite severe. (In one case, of a man aged eighteen years, it was intense.) After a few days, the conjunctivæ become yellow, and the color also is present on the skin; although in children the color is not the intense yellow one might expect to find. In fact, in some cases, the discoloration of the skin is very slight. The disease persists for two or three weeks, but improvement sets in after five or six days. (There were no deaths up to this immediate point.)

The liver enlarges, and this enlargement is persistent. (In one case, of a boy aged seven, at the end of two months, the liver was two inches below the costal margin.)

The disease is not immediately recognized, being likely to be mistaken for some digestive or intestinal disturbance; but soon the characteristic symptoms appear. The mortality is said to be from 10 to 30 percent. None died in this epidemic of 16 cases.

The treatment is symptomatic and supportive. The diet must be extremely low for a few days, the first eighteen hours no food by mouth being permitted, and only enough water to allay the thirst. Milk as a diet, to my notion, is a food to be avoided after the first week. The diet for the first week must be beef broth (home-made), jelly, gruels, malted milk, Nestlé's food, water, the juice of orange, lime, or grape-fruit, farina with a little sugar and butter. Small feedings every three hours is better than larger quantities at great intervals; but all of these should be used sparingly the first few days, because vomiting is extremely easily excited.

When the temperature ranges high, sponging with cool water may be resorted to, or small doses of phenacetin, 1-3 grain, with caffeine citrate, 1-2 grain, may be given.

For the abdominal pain, nothing excels the hot-water-bottle, and children like to have it applied. An enema is given daily, also a warm sponge-bath.

Rhubarb and soda, for its supposed action on the liver, and sodium phosphate every morning before any food is taken. Sodium salicylate and ammonium chloride were used in the young adults, but not in the young children, for fear of making a bad stomach irritation worse.

Lavage of the stomach would seem indicated, but was not tried, though I believe it would allay the vomiting better than any other means. After four or five days, tincture of nux vomica and diluted hydrochloric acid was resorted to.

In this little epidemic of acute infectious jaundice of sixteen cases, the oldest was a man of eighteen, and the youngest a girl aged three. In one family of six children, three had the disease. In another family of three, all had the disease, starting with the oldest, aged ten, in three weeks the boy, aged seven, and, in about six weeks the girl, aged three. Why the long, uneven period of incubation?

In the same family, the period of incubation varied from three to six weeks. In one family of six, three had the disease; in another of three, one boy was sick; in another of three, all were sick, no precautions of isolation being taken.

If I remember correctly, this disease occurred epidemically in western Kansas some years ago, but I cannot recall the physician's name who reported it.

MAYER SHOYER.

Blaine, Tex.

ORDER YOUR 1912 INDEX

Older subscribers of CLINICAL MEDICINE need not be reminded of the fact that, owing to its bulkiness, the Annual Index of this journal is not bound into the January issue or sent out promiscuously, but that it is cheerfully mailed to everyone sufficiently interested to make a request for it. (A few words on a postal card, signing address plainly, will do.) For the benefit of newer readers it may not be amiss, however, to repeat what so often has been pointed out, namely, the great importance to every wide-awake physician of carefully preserving all his issues of CLINICAL MEDICINE and having them bound, with the index, at the completion of each volume. For, while many do not realize it as they lightly cast each successive monthly number into an obscure corner or pile it upon the top of their desk, the numbers collectively constitute an inexhaustible mine of invaluable information for the intelligent practitioner, a store-house of practical and theoretical hints that grows in encyclopedic range as year by year the substantial volumes increase in number. And they should occupy the handiest shelf in the bookcase.

As our readers are aware, with the accumulation of experience, our annual index has been improved upon from year to year; for bound volumes of periodicals are of little value unless accompanied by an exhaustive and completely compiled index. Thus, several improvements have been effected this year, to which we will briefly call attention, the most important of which is that the authors have been grouped by themselves so that now there are four departments: (1) The main, or general subjects, (2) editorials, (3) book reviews, and (4) authors. This latter innovation will prove helpful in looking up anything, while simplifying the subject-matter department. The reason for separating editorials is, that many bear headings or treat upon questions that cannot be indexed by appropriate catchwords.

In an aim to aid the reader in every way, the number of cross-references and suggestive synonyms has gradually been added to, and this year has been appreciably augmented.

This feature cannot fail to prove helpful in tracing any particular subject. Particular attention here may be directed to the fact that, agreeable to the style followed by this journal, in the anglicized forms of words from the Latin and Greek the digraphs "æ" and "œ" are consistently represented by simple "e." This does not apply, of course, to those words and names when used in their strictly Latin or Greek form.

Readers will observe that, for now several months, the numbers of the first and the last pages of each monthly number of CLINICAL MEDICINE are printed on the back of the cover. This little "kink" is a great aid in finding anything, after consulting the index, before the volumes are bound.

We here renew our customary offer, that we will arrange to bind the journal for our subscribers, when desired, for $1.00 per volume. We do this as a convenience for them, without profit to ourselves.

And, now, once more—mail your request for the 1912 index (or for any of the last few years), and do it *now*. Also, don't fail to get your CLINIC volumes bound.

QUACKS

What is a quack? Answer: It is an individual (man or woman) who claims to be able to diagnose and cure incurable diseases. Some of them have a state license, but most of them haven't. They make a specialty of something, such as cancer, consumption or chronic diseases.

Very few, if any, chronic diseases are ever cured. No traveling man can do anything more for you, nor even as much, as your family physician. Most traveling fakirs never saw the inside of a medical college. They make you promises that they can't keep. They collect a certain amount (this varies a great deal—it depends on what they think they can bleed you for) and you never see them again. They would rather tell you a lie than the truth. They can get you to believe their lies quicker and easier than your family physician can get you to believe the truth. Your family physician will not lie to you nor deceive you. He knows he cannot build up a practice by lying and deceiving his patients. The traveling man is not trying to build up a practice. All he is after is your money, and he usually gets it—and you get nothing; only his promise, which is worthless.

It is always safe to ask your family physician for advice when you are sick. If he can help you he'll do it, and if he can't, nobody else can, as a rule. There are some incurable diseases. Often people think, because their family physician can't cure them, that some other doctor can—that's where they are mistaken; and this often leads them to patronize fakirs. The quacks promise everything. The idea of diagnosing any and every condition as catarrh of the system, cancer or some other thing! It is preposterous. Nobody ever had catarrh of the system.

Oftentimes people are persuaded to hand the traveling fakir from five dollars to fifty dollars, and all they really get is a promised cure. Sometimes these same people think the family-physician's bill is too high after he has given his time and real medical knowledge (backed by a diploma from a medical college, a state license, and his experience), not only in their behalf, but in his own behalf, by establishing his reputation as an honest, competent, conscientious physician. Before patronizing a traveling quack ask him to show you his authority, his state license. That, very often, he cannot do. That will identify him, and as he is a stranger, he should be identified. O. C. CHURCH.

Greenville, Ill.

[This information Dr. Church places in the hands of his patrons. It is a good way to fight the traveling quack.—ED.]

THE DEATH OF DOCTOR EPSTEIN

Just as the last form of CLINICAL MEDICINE was going to press, the news came that our dear old friend and colleague, Dr. Ephraim M. Epstein, for many years connected with CLINICAL MEDICINE in an editorial capacity, had passed away. He died on Sunday, January 26, after an acute illness (acute indigestion) lasting only two hours.

While we have seen that our old friend was gradually growing weaker—to be expected in a man of his extreme age—he has seemed as intellectually acute as ever. Every day he came down to his desk in the library, and he browsed around in the foreign journals and among the old books he loved so well with the same keen zest that has characterized him all his life, up to the very day of his demise.

For this issue we have time only to prepare this brief notice of Dr. Epstein's death. Next month we shall tell you something about his life work—about the man himself, as we, his colleagues, knew him.

JUST AMONG FRIENDS

A DEPARTMENT OF GOOD MEDICINE AND GOOD CHEER FOR THE WAYFARING DOCTOR

Conducted by ***GEORGE F. BUTLER, A. M., M. D.***

(Continued from January, page 102.)

HAVING decided upon the posture of the patient, the degree of rest or of movement permissible, the need for a nurse to administer and to companion, we shall next have in mind the surroundings of the sick man. If confined to the room, the choice of this, its seclusion yet accessibility, its aspect, airiness and warmth, in brief its hygienic qualities, these all will demand our attention. We must be content to leave details, for so long as we are clear as to what it is that we wish to secure, namely, the patient's comfort and well-being, the particulars may well wait upon the occasion.

We may here with advantage remember a favorite dictum of Sir William Jenner, that the best room in the house is not too good to be a sick-chamber, and we shall not forget, especially where there is prospect of protracted illness, that the smallest trifles, even to the pattern of the wall-paper, are not beneath consideration. The weakened mind is irked by small things, and, owing to the facility with which it perverts and distorts, it is easily obsessed by shapes and colors apparently of the most harmless description. It is thus that a picture or the design of a paper may "get upon" the nerves of the patient and be literally an eyesore.

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The atmosphere of the sick-room should be as reposeful to the mind as to the body. Deliberately, after the manner of the wounded animal, the patient has withdrawn himself, or suffered his withdrawal, from the commerce of the world. See to it that its wares do not find ready access; the sufferer is in no mood to traffick, mind and body alike resenting as irritants those very influences which in health are wont to act as exhilarants. The visitor then, if admitted, will bring with him such news only of the outside world as may be deemed acceptable and capable of giving that assurance for which the sufferer craves.

God loveth a cheerful giver; unto none is the cheerful gift more welcome than to the sick, and the nature of this cheerful gift is repose of mind. Open wide, then, the door to all health-giving influences, physical, mental, moral; but make it fast against all those which would hinder the healing powers in quiet session.

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There is quite frequently a spread of infectious diseases by means of domestic animals. We may not in every instance know of the receptivity, but we do know that they have been exposed to infection. There are instances in which the animals are infected with the disease, but in this particular older animals are more immune than the younger ones, and, furthermore, it will readily be recognized that the latter are most frequently fondled. Hence conditions provide a greater opportunity for the spread of diseases.

Thus Dr. W. W. Babcock refers to the methods by which diseases may be conveyed from domestic animals to man by means of one of the following methods:

1. Direct contact. Many parasitic skin diseases occur in the dog, cat, and horse, and are transmissible by contact to man. These include forms of ringworm, or tinea, and scabies.

2. Inoculation. The most serious disease inoculated by bites of domestic animals is rabies. This disease occurs most frequently in dogs, but may affect cats, horses, cows, and other domestic, as well as wild, animals. This infectious principle is present in the saliva of the rabid animal. Inoculation may result from the entrance into the body of fluids or discharges from animals suffering from tetanus, anthrax, glanders or foot-and-mouth disease.

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Suggestive evidence is found in the statistical studies of McFarland and the reported findings of tetanus bacilli in vaccine. Tetanus bacilli are frequently found about stables; and cattle, although less susceptible than horses, are not immune. Operative tetanus has been attributed to the use of kangaroo-tendon (in reality horse-tendon) and to the injection of solutions of contaminated gelatin. Punctures by splinters, nails or other objects about stables are often followed by lockjaw, these objects apparently being contaminated by the dejections of horses.

3. Aerial infection. In coughing and snorting, horses suffering from glanders throw into the air liquid particles laden with the bacillus mallei. These particles may be inhaled by persons or by lower animals, may fall upon wounds or contaminate various inanimate objects in the immediate neighborhood. In this manner or by direct contact with the discharges from the noses this virulent disease is spread. In a similar manner organisms of tuberculosis may be conveyed from cattle to other cattle or to man. Psittacosis, a pulmonary disease of parrots, may likewise be transmitted to the human family, producing a serious pneumonic disorder. From sick parrots imported from South America to France, seventy persons in Paris became ill with psittacosis and thirty-four died.

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The evidence that cats, dogs, horses or fowls may contract diphtheria and scarlet-fever does not seem conclusive. It is known, however, that dogs, cows, and other animals may acquire tuberculosis.

4. Indirect infection. Parasites may be carried from domestic animals to man by fleas, lice, flies or other insects. The casual agent of many infections may be carried on the fur, feet or in the mouths of healthy animals, especially those serving as pets. As will be considered, foods of animal derivation are responsible for a number of diseases.

Animals suffering from diseases dangerous in man, such as plague, anthrax, and glanders, should promptly be killed, the bodies burned, quicklimed or buried deeply. Animals with advanced tuberculosis should be destroyed. Cattle with early lesions and without cough may be segregated and used only for breeding purposes. Rats should be exterminated in the presence of contagious disease. Domestic animals suffering from parasitic worms dangerous to man should be killed, or else segregated and treated with some efficient anthelmintic. Care should be taken that their discharges do not disseminate the parasites. Animals afflicted with vermin, tinea, scabies or other contagious skin disorders should be treated with an appropriate parasiticide.

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It seems to be an indisputable fact that the rapid advance, during the last fifty years, in what we are pleased to call civilization is steadily bearing fruit in a rich crop of new diseases of the body and disorders of the mind. As fast as progress in medical as well as general science enables us to combat, and often conquer, the old diseases, the habits and conditions of modern life seem to give birth to new and undreamt-of maladies. It is, of course, not possible to say to what extent our pre-Norman ancestors were troubled with "nervous" hypochondriasis, "liver," clergyman's sore throat or housemaid's knee, with which, it is evident, they could not have been afflicted.

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The ridiculous desire of parents that their children should acquire some degree of mechanical dexterity on the keyboard of a pianoforte, whether they have any real aptitude for music or not, has produced a good deal of harm. It has created a disorder called "musical overstrain." It has been stated by a German observer that much of the nervous delicacy so common among girls is traceable to excessive diligence at the piano. When, as sometimes happens, six or eight hours are daily absorbed in repeating a hum-drum series of manipulations, the wonder is that nature so long endures the drudgery. Musical mediocrity is surely a poor compensation for overstrung or shattered nerves.

Railway and automobile traveling is responsible for frequent cases of nervous debility and exhaustion. Many persons try to live a dual life—to be a busy city man during the day and country gentleman at night. The consequent long railway journeys and fast automobile rides are more trying than most people suppose. A man with a strong constitution may pass through the ordeal unscathed, but many people suffer in later life from an impaired nervous system, without being aware of the real cause.

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Cycling is a boon that we could ill dispense with, yet there is a distinct danger of the rider acquiring a bad style and developing that ugly deformity known as the "cyclist's back." Even typewriting has produced a new complaint, that is called the "typewriter's disease." The operator, in consequence of overstrain and long application in spelling out words over the keyboard, gets attacks of temporary mental paralysis, which render work absolutely impossible. Then the excessive use of our brains in nearly every profession has produced that very troublesome complaint, insomnia.

Two quite new diseases may now be added to the list of those arising from conditions of modern life. The first is a malady associated with football. It is known as "scrum-pox," and is an infection that is liable to be transmitted through the abrasions which rough jerseys are apt to cause on the faces of players during "scrummages." When it once breaks out, it seems that the most careful precautions have to be taken for the dis infection of jerseys and the avoidance of abrasions.

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The other complaint is "golf-arm." This disease is not to be lightly dismissed, and its announcement will cause a shock to many of our readers. It appears to be due, we are told, "to repeated sudden and whiplike contractions of the triceps bruising the musculospinal nerve." There are painful points where the nerve pierces the external intermuscular septum, and numbness with tingling in the dorsum of the thumb and first finger. Embrocations will not allay it, and no cure, we believe, has yet been found. The disease, of course, spoils a man's enjoyment of golf.

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Parents might save for themselves and for their children endless suffering, if they understood from the beginning that children are significant exclusively as new personalities, with new gods and new aims; with the right to protect their own nature with the duty of finding out new paths, without forfeiting the right of being respected by their parents in the same degree as the latter, on their side, retain the right of being venerated by their children—for the best of what they are or have been, what they have done or have willed.

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Great love arises only when a desire of a being of the other sex coalesces with the longing for a soul of one's own kind. It is like fire, the hotter it is, the purer; and differs from the ardor of desire as the white heat of a smelting-furnace differs from the ruddy, smoking flames of a torch carried along the streets.

Let us all determine to see the good that is around and about us, and quietly do our best to check evil when we see it, but say as little about it as possible, realizing that the greatest thing in the world is Love—ever singing

In sorrow and in sighing—
In darkness and in light,
Just keep this motto flying:
"The world's
All
Right."

Think hate and wrong are dying
From human sense and sight,
Just keep this motto flying:
"The world's
All
Right."

A CORRECTION IN RE LLOYD'S ARTICLE

Through some unaccountable oversight we failed to give proper credit to *The Journal of the American Pharmaceutical Association*, in which appeared Professor John Uri Lloyd's fine paper giving statistical information concerning the use of the different vegetable remedies by American physicians, referred to in the first editorial in the January number of Clinical Medicine. This paper is one of the most interesting which it has been our privilege to read for many months. We hope that every reader of The Clinic will write Prof. Beal, editor of *The Journal*, at Scio, Ohio, enclosing 20 cents in stamps for a copy of the November issue, in which it appeared.

In this connection we wish to add that Prof. Beal is producing one of the most interesting and helpful pharmaceutical journals ever published in America. Physicians would enjoy reading and should receive substantial help from its pages.

We regret that unavoidably we are compelled to place this "correction" away back into this corner of our journal, when properly it should appear in the editorial pages.

WHAT BECOMES OF THE PRESCRIPTION?

Dr. Elmer N. Funk, of Shreve, Ohio, sends us a clipping from the department of Household Suggestions of *The Cleveland News*, which reads as follows:

KEEP PRESCRIPTION NUMBERS.—When your family physician writes out a prescription for certain ailments, keep the number of the prescription and the place where it was filled in a little book which you can call "Medicine Directory." Next to the number, write the ailment for which it was given and name of doctor. You may not need the medicine again for some time, but should the ailment return, you have only to consult your directory, get the number and have the prescription filled.—Mrs. W. L.

We are curious to know what the readers of Clinical Medicine think about this.

AMONG the BOOKS

ROBINSON: "PATHFINDERS IN MEDICINE"

Pathfinders in Medicine. By Victor Robinson. With a Letter from Ernst Haeckel and an Introduction by Abraham Jacobi. New York: *The Medical Review of Reviews.* 1912. Price $2.50.

"Who is Aretaeus?" the author of the essays before us exclaims on page 35, and the same question had struck the reviewer when this essay on Aretaeus first appeared in *The Medical Review of Reviews.* Mr. Robinson proceeds to regret that Aretaeus is a forgotten physician, and undeservedly so.

Although but little is known about this ancient Greek physician, the assertion seemed passing strange to this writer. For, do we not owe the first clinical description of diphtheria to Aretaeus? Was it not a well-known fact that the classical picture of the habitus phthisicus, which is ascribed sometimes to Sydenham, sometimes to Schoenlein, was first given by Aretaeus? Did not the famous Kuehn edition of ancient medical authors contain the works of Aretaeus? Did not Francis Adams prepare an edition for the Old Sydenham Society in London, which was published in 1856 and forms a beautiful volume of over 500 pages? And does not Waldenburg mention the Cappadocian in his history of tuberculosis (1869)? Is he not cited in the classical historical works of Haeser, of Neuburger, Pagel, and others? And has not this writer frequently consulted the scholarly edition of Aretaeus' works by Crassus?

And, yet, we do not know but what the author of "Pathfinders" is right and that we owe him a debt of gratitude for having resuscitated, as it were, the memory of this meritorious physician, whose writings are of such great interest.

Mr. Robinson's essays on "Pathfinders in Medicine" should, to use a hackneyed phrase, occupy an honored place in the library of every physician, not only because a number of men to whom medicine owes much have been discussed and memorialized appreciatively, but because Mr. Robinson has in a very brief time entered the foremost ranks of medical historians owing to his sympathetic treatment of his subjects, and also because of the enthusiasm and appreciation that he evinces for them.

The diction of these essays is splendid. It is more than an easy flow of words; it is clever in the best meaning of that much abused term. The author of "Pathfinders" is a *rara avis* in medical literature; he does not only describe his subject clearly and lucidly, but he makes it attractive. We hope to read much more from his pen.

ROBINSON: "ESSAY ON HASHEESH"

An Essay on Hasheesh: Including Observations and Experiments. By Victor Robinson. New York: *The Medical Review of Reviews.* 1912. Price 50 cents.

To say that this "Essay on Hasheesh" recalls in a way De Quincy's "Confessions of an Opium Eater," is trite, because other reviewers have made the same remark. There are, however, far more differences than points of similarity. In fact, Mr. Robinson's essay stands in a class by itself. Of immense interest on account of the careful notes which he presents on the action of this strange drug, the little volume not only instructs, but it is highly entertaining, owing to the author's happy faculty of presenting all the subjects, in which he is interested, in an unusually attractive form. The little book is well worth reading, and having been read once, will be reread with pleasure.

POTTENGER: "MUSCLE SPASM"

Muscle Spasm and Degeneration (their importance as diagnostic aids and their influence in producing and altering the well-established physical signs; also a consideration of their part in the causation of changes in the bony thorax), and light-touch palpation (the possibility and practicability of delimiting normal organs and diagnosticating disease-conditions within the chest and abdomen by very light touch). By Francis Marion Pottenger, M. D. With 16 Illustrations. St. Louis: The C. V. Mosby Company. 1912. Price $2.00.

This volume presents the results of Dr. Pottenger's studies, for a number of years, concerning which he has kept the profession informed in many contributions to medical journals. The work is of great importance to the tuberculosis physician, but the general practitioner also will find much that is interesting and of value.

The author's method of light-touch palpation and his ideas of muscle spasm and degeneration being symptomatic of intrathoracic inflammation and disease present problems that are of immense interest, and that widen and expand our understanding of the disease which has been studied more than any other and is yet not fully understood. The book is recommended for careful study.

GRIMSHAW'S "MEDICAL GUIDE"

The People's Medical Guide. Points for the patient, notes for the nurse, matter for the medical adviser, succor for the sufferer, precepts for the public. By John Grimshaw, M. D., B. S. New York: The MacMillan Company. 1912. Price $3.00.

Grimshaw's Medical Guide is intended to present to the laity a theory and practice of disease, as it were, in a form in which it should be useful to them. Medical lore is no longer a secret lore, and it is right that the people should be informed to a certain extent of medical matters. Dr. Grimshaw is not a novice in this field, and has presented us with an excellent and useful work which may be given to intelligent patients with confidence.

FREEMAN: "SKIN GRAFTING"

Skin Grafting. For Surgeons and General Practitioners. By Leonard Freeman, M. D. With 24 illustrations. St. Louis: The C. V. Mosby Company. 1912. Price $1.50.

A brief but withal fairly complete presentation of this interesting subject, which has assumed such immense importance in the treatment of destructive lesions of the skin.

DOMINICI: "RADIUM-THERAPY IN MALIGNANT DISEASE"

The Technique and Results of Radium-Therapy in Malignant Disease. By M. Dominici, M. D., and A. A. Warden, M. D. Reprinted from *The British Medical Journal* of August 27, 1910, with additional plates and more recent notes. London: J. & A. Churchill. 1912. Price 75 cents.

"REPORT (1912) OF THE ILLINOIS CHARITIES COMMITTEE"

This, the second annual report of the State Charities Commission to the Governor of Illinois, contains much of interest to physicians, not alone of those of Illinois, but in general. We believe that physicians residing in this state may obtain copies by writing to the secretary of the Charities Commission in Springfield, and we strongly urge them to do so. The report does not lend itself readily to review, because of the multiplicity of subjects considered. It should be read at leisure and used as a reference manual.

SIMON: "CHEMISTRY"

Manual of Chemistry. A guide to lectures and laboratory work for beginners in chemistry. A textbook specially adapted for students of medicine, pharmacy, and dentistry. By W. Simon, Ph. D., M. D., and Daniel Base, Ph. D. Tenth edition, thoroughly revised. With 82 illustrations, a colored spectra plate, and 8 colored plates representing sixty-four chemical reactions. Philadelphia and New York: Lea & Febiger. 1912. Price $3.00.

The object of this manual is to furnish to the student, in concise form, a clear presentation of the science of chemistry, an intelligent discussion of those subjects which are of interest and a trustworthy guide to his work in the laboratory.

PLATT-PEARSON MEDICAL CHEMISTRY

Practical Medical Chemistry for Physicians and Students. By Charles Platt, A. C., M. D., Ph. D., F. C. S., London, and William A. Pearson, Ph. C., Ph. D. Sixth edition. Rewritten and enlarged. Philadelphia: John Jos. McVey. 1911. Price $2.50.

In contrast to the manual of chemistry just discussed, the present volume is intended for physicians as well as for use in college. It presents the essentials of medical chemistry, containing chapters on physiological and clinical chemistry, by which the physician shall be enabled to ascertain the condition of the normal and pathological excretions and secretions of his patients, from which he can derive such far-reaching indications for treatment. The book is by no means a new one, having been before the profession a number of years. Its value is enhanced by being interleaved for personal notes.

"PROGRESSIVE MEDICINE"

Progressive Medicine. A quarterly digest of advances, discoveries, and improvements in the medical and surgical sciences. Edited by Hobart Amory Hare, M. D., assisted by Leighton F. Appleman, M. D. December 1, 1912. Philadelphia: Lea & Febiger. Price, per annum, $6.00.

The fourth number of the present volume discusses the advances in our knowledge on diseases of the digestive tract and allied organs, diseases of the kidneys, genitourinary diseases, surgery of the extremities, shock, anesthesia, etc., and presents a splendid practical therapeutic referendum. *Progressive Medicine* forms one of those works that the physician wants to keep at his hand and read at leisure in order to keep up with the times, because the literature is carefully selected, and discussed in such a manner that the advance in our knowledge become available.

WIDE: "HOME GYMNASTICS"

Home Gymnastics According to the Ling System. By Anders Wide, M. D. With 37 illustrations. Second revised edition of the authorized English translation. New York: The Funk and Wagnalls Company. 1908. Price 50 cents.

About the value, and indeed about the necessity, of exercise taken deliberately and regularly there can be no doubt. This being taken for granted, we are grateful to an author who presents us with the programs for such regular exercises and who explains and describes them as fully as Dr. Wide does. The reviewer obtained much valuable information from this little book and recommends it cordially to physicians for their personal use and for the use of their patients.

LOWRY: "HIMSELF"

Himself: Talks with Men Concerning Themselves. By E. B. Lowry, M. D., and Richard J. Lambert, M. D., Chicago: Fordes & Co. 1912. Price $1.00.

"The demand for a book that would state in nontechnical terms the things concerning the body that should be known by every adult male, without any attempt to dictate, has led to the publication of this book." It is the fifth of the series, the others—by Dr. Lowry—being: "Truths: Talks with a Boy;" "Confidences: Talks with a Girl;" "Herself: Talks with Women;" and "False Modesty."

Of the present volume we can say what we have already said of the others, that it deals with delicate subjects in a delicate manner, discussing them in an edifying way, without prudery, preaching or vulgarity. Dr. Lowry's books are just what we need to place in the hands of the young, to give them an insight on matters of which they too often learn only from ignorant and vicious servants or loafers. During the last few years there have been several attempts to fill this need, but none have accomplished the work so admirably as Dr. Lowry. In the preparation of the present volume, her husband, Dr. Lambert, has participated.

FOX: "BACTERIA AND PROTOZOA"

Elementary Bacteriology and Protozoology. The Microbiological Causes of the Infectious Diseases. By Herbert Fox, M. D. Illustrated with 67 engravings and 5 colored plates. Philadelphia: Lea & Febiger. 1912. Price $1.75.

The present work has been prepared to give the nurse and the beginner an idea concerning the nature of microorganisms and their relation to the world's economy, especially in disease. Emphasis has been laid upon how bacteria pass from individual to individual, how they enter the body and act when once within, and their manner of exit. The author has taken particular pains to show in a simple manner how bacteria produce disease.

This volume is of special use to physicians who desire to prepare addresses for lay audiences, and for the instruction of patients and of nurses. It is a handy little volume, fully illustrated, and fills a distinct place in medical literature.

BURR'S "PHYSICIAN'S VISITING LIST"

J. B. Burr & Co., of Hartford, Connecticut, have sent us a physician's visiting list. It consists of 12 monthly booklets that can be started at any time of the year. There are monthly call-lists, with provision for charges and references to the ledger. The booklets are of a handy size to slip in the vest-pocket, being thin enough not to be cumbersome. The price is 10 cents each, or $1.00 per dozen booklets. (See advertisement in Clinical Medicine for December.) The same firm offers prescription blanks in a variety of inclusions, for details on which they must be addressed direct.

"MOTOR-CAR ANATOMY"

Motor-Car Anatomy. Being a book of valuable information for the prospective purchaser of an automobile. By Franklin Pierce, who has been active in the production of high-grade automobiles since the inception of the industry.

Through the courtesy of The Buckeye Manufacturing Company, of Anderson, Indiana, we have received this pretty little volume, which presents in a hundred small pages a very great amount of information on motor cars. The firm informs us that it will be glad to send a complimentary copy to any reader who asks for it and who will mention THE AMERICAN JOURNAL OF CLINICAL MEDICINE. All our readers who own or hope to own motor cars are invited to avail themselves of this offer.

SIMS' "CHRONIC DISEASES"

Talks on Chronic Diseases, with Special Reference to Mechanico-Therapeutical Treatment. A book for the General Practitioner, as well as for the specialist, on chronic diseases. A book that tells you how to treat successfully, how to relieve or to cure the chronic diseases mentioned herein. By Charles Andrew Starr Sims, M. D., Kansas City, Missouri: C. A. S. Sims. Price $5.00.

This is a distinctly "different" book in that the author has well succeeded in his avowed intention and attempt to leave out everything that could cloud the practical use of the information presented. From the original intention to present a small volume on mechanical therapy, with special reference to vibratory treatment in the treatment of chronic diseases, the author's contribution to medical literature has grown into a respectable volume of over 200 pages, in which, to be sure, mechanical, especially vibratory and allied forms of treatment are indicated more particularly, but which also offers a great many suggestions for medicinal and general treatment.

While the author avoids etiological, pathological and diagnostic discussions, for the sake of briefness and with a view of excluding everything that can be found in the textbooks commonly at the physician's command, he presents after each recommendation for treatment a brief paragraph on the theory of this treatment which vindicates the methods suggested.

While the reviewer is not in a position to decide upon the value of the mechanical treatment suggested, the directions that are given in the volume appear to him to be supported by common sense and to be decidedly reasonable. He can, however, affirm from his own knowledge that the medicinal and general directions given by the author for the treatment of the different affections under discussion are excellent, and to judge from these the reviewer does not hesitate to recommend the book as of great value to the general practician in his everyday practice. The text is brief and concise, so that it is absorbed readily. No searching is necessary, although of course reading of this book, like every other work of the physician, requires thought and reasoning.

DRUGGISTS CIRCULAR'S "MODERN MATERIA MEDICA"

The Modern Materia Medica. The source, chemical and physical properties, therapeutic action, dosage, antidotes, and incompatibles of all additions to the newer materia medica that are likely to be called for on prescriptions, together with the name and address of the manufacturer or proprietor, and in the case of foreign articles, of the American agent. Third edition, revised and enlarged. New York: *The Druggist's Circular.* Price $1.00.

The review of the prior (second) edition, in CLINICAL MEDICINE for October, 1912, page 1064, evidently is true for the present new edition of this excellent little work.

KNOWLTON: "DIABETIC COOK-BOOK"

Diabetic Cook Book. By Anna Colby Knowlton. Englewood, New Jersey: Anna Colby Knowlton. 1912. Price $2.00.

In this volume the author has made the attempt of presenting a large variety of dishes, which, if properly prepared, are attractive and relishable and which yet maintain the requirements of nutrition demanded in diabetics. The reviewer is not enough of a kitchen-mechanic to judge of the probable results when the different "prescriptions" are put up, but to the eye they certainly look good and appear to cover such foods as will serve to satisfy the craving for variety and for "nice things to eat."

CONDENSED QUERIES ANSWERED

PLEASE NOTE

While the editors make replies to these queries as they are able, they are very far from wishing to monopolize the stage and would be pleased to hear from any reader who can furnish further and better information. Moreover, we would urge those seeking advice to report their results, whether good or bad. In all cases please give the number of the query when writing anything concerning it. Positively no attention paid to anonymous letters.

QUERIES

QUERY 5881.—"Otitis Media and Facial Paralysis." T. P., Dakota, last spring was called to attend a woman with a terrible earache. Examination disclosed otitis media. Temperature and pulse were normal. The patient gave an impression of being of a very nervous disposition. She was not contented in this country and wanted to go back to Europe, whence she came six years ago.

One dram of olive oil and chloroform was injected slowly into her ear, which seemed to give relief. She also applied hot rags. The next morning the patient was without pain in the ear, felt just a trifle feverish, but had all signs of an approaching influenza. She complained of being deaf, as if both ears were packed; she also had tinnitus aurium. Her catamenia had just set in. Two days later she seemed to be very nervous (the doctor thought she had had a "shock of some kind"), and said she had a strange feeling in the face, especially when she drank water; she could not open her mouth as usual. The day after, she complained of tingling of the lips and tongue. The corner of the mouth was depressed and she could not whistle. It seemed a typical case of Bell's palsy. Then for another week she had a terrible earache, which finally stopped when the abscess broke, pus escaping into the mouth through the eustachian tube. After a few days more, "faradic bathing" was instituted, and diaphoretics and counterirritants were ordered. She also was blistered once. She improved a great deal, but has had attacks of neuritis as soon as she exposed herself to cold.

In May, the woman's mouth drew back a little so that she could whistle, but the paralysis persisted and one eye was lower than the other and "half of the nose was kind of stiff." She also complained of difficulty in forming words. This condition has now lasted for five months, without improvement, in spite of the use of electricity and administrations of nerve tonics and daily massages. She now complains of pain along the course of the nerves on the affected side. In the middle of October it was very cold and she got "an attack of neuritis nearly all over the face," this lasting two days; since then the middle of the upper lip skews toward the paralyzed side. Now she is "more sore than before over the frontalis and infraorbitalis. For the last month there has been a gathering over the infraorbitalis, just like a little boil, but it does not break." This is her present condition.

Now, as you will readily understand, doctor, treatment in this case must to a very great extent be based upon a clear conception of middle-ear conditions. As you are aware, the facial nerve runs through the petrous portion of the temporal bone to the tympanic cavity, and, hence, is likely to be implicated by acute inflammatory processes of the ear, as well as by chronic suppurations, necrosis, and so on.

Many French authors hold that facial paralysis is almost invariably due to an inflammatory disease of the middle-ear. Though this may be an extreme view, the history in the majority of patients examined shows that for some days prior to the appearance of paralysis there was more or less difficulty of deglutition or dull pain in the middle-ear; quite frequently the inflammatory process extends from the tonsils, through the eustachian tube, to the middle-ear.

The onset of facial paralysis in some cases is sudden; in others, progressive. Not infrequently the patients complain of tinnitus aurium, slight difficulty in hearing, vertigo, pain in head and face; sometimes there is a slight rise of temperature or general malaise. Pain in head, ear, neck, over the forehead, temporals, and zygomatic arches, which may precede or accompany facial paralysis, indicates implication of numerous nerves—trigeminal, glossopharyngial, and upper cervical. It is well known that patients with a beginning facial paralysis generally seek relief from a pain that frequently is excruciating and deprives them of sleep. It may be present for a week or so before complete paralysis appears.

In the case you describe, you seem to have a typical case of facial paralysis due to infection of the middle-ear. You say that you injected into the ear "1 dram of olive oil and 5 drops of chloroform, which seemed to give her relief." It is hardly possible that the auditory canal, especially if congested, could retain this amount of fluid. Is it possible that the tympanum was ruptured and that some of the fluid was forced into the middle-ear? The "strange feelings in the face and mouth" which the patient complained of, with "tingling of the lips, tongue, etc.," are typical. We do not think that any "shock" was necessary to produce those conditions.

The second earache which you mention, and which "stopped when the abscess broke" and pus escaped, shows very conclusively the existence of a deep and extensive infection; and under the circumstances the services of a skilful aurist should be secured at the earliest possible moment.

Is there any possibility of a syphilitic taint in this case? Search also for evidences of diabetes and acidemia. It may be possible, that at the time the middle-ear became infected a subacute neuritis existed; the otitis being a complication, not a causative condition. Unilateral facial paralysis occurs both in acute and subacute neuritis (as well as in diseases of the tonsils, influenza, diabetes, etc.) which generate toxins in the organism. In fact, there are many other etiologic factors to which Bell's palsy may be attributed. Naturally, prognosis depends upon basal conditions.

You do not mention the brief, lightning-like contractions which so frequently appear in such cases; neither do you seem to designate states of electric irritability, i. e., the electrical changes designated by the woman's reactions of degeneration. In mild peripheral paralysis, changes are slight and may completely disappear in a few weeks. In the severe forms, electrical contractility for faradic and galvanic currents decreases steadily after the second or perhaps the third day of the attack, and in the course of from eight to twelve days response to either current is lost.

In addition to the mild and severe forms of facial paralysis, modern clinicians recognize a third type, which has been designated the medium; and, in this form, direct faradic contractility is somewhat lessened in comparison with the normal side, as is also indirect contractility; but neither are wholly lost or even greatly diminished. It must not be forgotten, however, that a paralysis that appears mild for two or three weeks may in a few days assume the medium type. Prognosis usually is, of course, better than it would be in the severe form, but it does not permit us to promise a speedy recovery.

If in eight or ten days after the onset of paralysis faradical contractility has disappeared, or almost entirely so, we have to deal with the severe form of paralysis, and recovery cannot be expected for months; in milder cases, recovery, as a rule, occurs in from three to four weeks; the medium form lasts longer—one to two months.

It is entirely impossible, with the data at our disposal, to discuss this case, but we would point out the necessity of arriving at a diagnosis. The existence of peripheral facial paralysis being established, the exact location of the lesion and course of the nerve should be ascertained.

A study of the diagram, on page 670 and 671, in "Diseases of the Nervous System," by Salinger, would prove enlightening; in fact, the entire chapter upon prosoplegia is worth a careful study. See also the figure on page 679, illustrating the facial nerve and its communications with the trigeminal and glossopharangeal nerves.

As we already have stated, existent conditions of the ear must be recognized and an attempt made to cure these. Elimination should be stimulated and, if an acidemia exists, this be corrected. The arsenates nearly always are advisable. We should be inclined to give the triple arsenates with nuclein, alternating, perhaps, with arsenic iodide, week and week about. But, by all means, have the patient's urine examined at the earliest possible moment.

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Query 5882.—"Hemoglobinuria." J. F. H., Arkansas, recently has had under treatment a very bad case of hemoglobinuria, and he expresses the belief that one of the predisposing factors is an acid intoxication. As he is unable to find any mention of this matter in any works on malaria (except a mention of indications for sodium sulphite by Webster, in his "New Eclectic Practice"), he asks whether his conclusions are warranted. The doctor adds:

"This subject may be of interest to doctors in this and other intensely malarial regions, and I should like to obtain as many samples of urine from swamp-fever patients as possible. Perhaps Clinical Medicine could assist me in getting these together, with a clinical history of each case. I have had a number of patients with chronic malaria who suffered intensely from strangury, but cleared up promptly when sodoxylin was given in full doses, three times per day."

To the foregoing, the following reply, substantially, was made:

For a long time we have pointed out the importance of recognizing underlying acidemia, and have proven definitely that a host of symptoms, some of them most rebellious to treatment, disappear upon the correction of autotoxemia due in a majority of cases to intestinal fermentation. For instance, it has been satisfactorily demonstrated that pyorrhea alveolaris is an evidence of acidemia. Correct the disorder of the body-chemistry, and local conditions are readily controlled.

We think it would be a good plan for you to send a specimen of this patient's urine (4 ounces from the 24-hours' output, stating total quantity voided) to a reliable biologic laboratory.

We are constantly receiving such specimens from physicians, and should those from patients suffering from malaria reveal a concomitant acidemia, we shall note the fact, and as soon as we have sufficient data of cases to form a definite opinion upon, we shall announce it. As a matter of fact, however, in these days most physicians believe in the "clean-up and keep-clean" method of treatment.

Most individuals suffering from malaria may receive comparatively large doses of calomel or of calomel and podophyllin, followed by a laxative saline draught; and in a very large number of cases the sulphocarbolates are given freely. Naturally any existent acidemia is corrected thereby.

As you are aware, many observers in our southern states agree that quinine given in full doses is apt to produce hemoglobinuria. The condition may present itself while the patient is cinchonized. Quinine being a protoplasmic poison, it always renders hemoglobin unstable and destroys red cells. If this action is added to the destruction by the plasmodium malariæ, it may cause the escape of hemoglobin into the urine. Some clinicians advise quinine if hemoglobinuria occurs *during* a paroxysm, the parasites then being found in the blood. The drug should be withheld if parasites are not found; if given before hemoglobinuria occurs, and no parasites are discovered, it should be suspended, but continued if they persist.

Tannic acid, 15 grains every two hours for four or five doses, has proven effective in hemoglobinuria. Sodium salicylate also has been recommended.

Then, in response to the foregoing letter, our correspondent writes:

"What I particularly want to get at is, whether acidemia may or may not be one of the predisposing factors in malarial hemoglobinuria. I understand that quinine is supposed to produce this condition at times; other authorities state that insufficient dosage of quinine will also produce hemoglobinuria. Do you not think that quinine given in large dosage, where an acidemia exists, will more readily produce hemoglobinuria than otherwise? I'll relate an applicable case.

"A man, age 33, single, farmer, has had malaria for about a month, the paroxysms returning every seventh or fourteenth day. He had been taking treatment for malaria, but it seems that quinine had been given either in insufficient dosage or that his bowels had not moved before the quinine was taken. I was sent for at 8 o'clock in the morning and arrived at 9:30, to find the patient urinating about every hour. The urine was brightly colored with blood, in fact was black. Temperature was 104° F.; pulse, about 60 per minute. He was taking 2 1-2 grains of calomel and 1-8 grain podophyllin every hour, with a tablespoonful of the elixir of buchu, juniper and potassium acetate every three hours. He had instructions from his doctor to take 10 drops of oil of turpentine at 12 o'clock.

"I immediately gave him 40 grains of calomel, 15 grains of jalap, following this in an hour with 2 teaspoonfuls of magnesium sulphate in hot water. In a wagon I took him 2 1-2 miles to where I could look after him. In two hours there was action of his bowels, and the temperature dropped to 102° F., staying there till morning, then gradually falling to 101° F.; the pulse was about 90 per minute. That night we sent for another doctor, who arrived at 9 o'clock next morning.

"We then gave the patient 15 grains of quinine and urea hypodermically, discontinued the buchu mixture, and gave him, instead, an alkaline diuretic. Besides, we gave normal salt solution with a soft-rubber catheter per rectum (drop-method), and ordered all the warm water he could drink. The next morning, which was the third day, we gave again 15 grains of quinine and urea hypodermically, to keep off the paroxysm. On this day the kidneys cleared up, and have remained all right. Again, on the seventh day, I gave him 12 grains more of the quinine and urea.

"Now I am giving him intramuscular injections of iron and arsenic; also, chionanthus virginica, 15 drops every three hours. He is improving rapidly. I expect to give him 12 grains more of quinine on the fourteenth, twenty-first, twenty-eighth and thirty-fifth days. Does it not seem, in this case, that the acidemia had something to do with the hemorrhage?"

Autotoxemia in a pronounced form was probably present here, and it is natural to suppose that its correction would, to a great extent, relieve renal congestion and thus hematuria; and it must be remembered that in many cases of socalled "hemoglobinuria" we have to deal with hematuria.

In hemoglobinuria occurring in a malarial patient, it is probable that the plasmodia malariæ act directly upon the blood-cells in the parenchyma or renal tubules, such hemocytolysis causing hemoglobinuria. This question never has been definitely settled, but we do know that, in many cases of socalled hemoglobinuria, blood in large quantities has been discovered; that, in fact, hematuria existed.

Extremely high temperature is just as likely to produce hemoglobinuria as the ingestion of large quantities of quinine, both agencies breaking up the close adhesion of the hemoglobin to the blood-cells and causing its liberation.

In "black-water-fever," so called (and you would seem to have had a typical case under observation), the causative agent undoubtedly is the toxins that exert a deleterious action upon the erythrocytes. Such action may be increased by an exhibition of quinine, or the drug itself, given for therapeutic effect, may produce hemoglobinuria.

It is probable that in certain toxemias the combination of the hemoglobin with the stroma of the blood-disks has become looser than normal and causes that ordinarily would be harmless then prove sufficient to produce separation of the hemoglobin. In this way we could readily account for "paroxysmal hemoglobinuria," so called, which manifests itself after the initial phenomena of the chill and quick rise of the temperature to 103° or 104° F The urine voided after such a chill often is smoky or brownish-red in color and contains hemoglobin in quantities. This condition may persist for some time, much depending upon the intensity of the toxemia, that is, the disintegration of the blood-corpuscles.

The whole subject is of intense interest, but, unfortunately, the case here reported does not in any way prove that a concurrent acidemia increases the liability of hemoglobinuria. No examination of this patient's urine was made, and we do not know that an acidosis existed.

In this connection, doctor, let us ask you why you consider 40 grains of calomel a desirable dose? You are familiar, of course, with the fact that a very much smaller quantity of the drug at times proves excessive. Under any circumstances, only a certain amount of calomel can undergo the desired chemical change in the intestinal canal, and, unless very prompt and thorough elimination is secured, such large doses are apt to cause salivation.

This writer having practised in Georgia, he is aware of the fact that southern practitioners, as a whole, believe firmly in large doses both of quinine and calomel. Nevertheless, it has been conclusively shown that a more pronounced impression can be made in practically every case with repeated small doses; in fact, an excess of drug (quinine or calomel) is apt to produce disastrous results.

We do not want to enter into an argument upon this point here, for volumes already have been written upon the subject; still, we would like to ask whether you have tried repeated small doses of quinine, especially the arsenate and the hydroferrocyanide, maintaining, meanwhile, thorough elimination with small doses of blue mass and soda and podophyllin, or calomel and podophyllin followed by laxative salines?

As the spleen in all these cases is more or less congested, berberine is strongly indicated, and the writer believes he can handle any case of malaria satisfactorily with these four remedies. Of course, it may become necessary to meet urgent symptoms with emergency-remedies; but the emergency once passed, the infection itself should be readily controlled.

We should like to know the outcome of this particular case, and strongly advise that you examine the patient's urine from time to time; and at the very next opportunity examine her urine before, during, and after the paroxysm, noting carefully the acidity, output of urea, and presence or absence of indican and skatol.

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Query 5883.—"The Anesthetic of Choice in Circumcision." A. R. H., California, wants to know what is the most satisfactory local anesthetic for circumcision? Also, what, if any, is the field of hyoscine-morphine-cactin here?

In circumcising an adult, we would suggest the exhibition of hyoscine-morphine-cactin, one tablet, one and one-half hours prior to operation. When the injection is given, the patient should be undressed, the part cleansed, and he should be put to rest at once in a darkened, quiet room. At the end of an hour he is more or less somnolent and a very few whiffs of volatile anesthetic, i. e., ethyl chloride or chloroform, now will ensure a perfectly satisfactory operation, without the patient experiencing dread or pain.

Local anesthesia is not always satisfactory. Children especially object almost as much to the injection of the anesthetic as they would to quick cision of the prepuce; and, even though the parts be thoroughly anesthetized, the little ones, knowing the work is being done, kick and struggle and greatly disturb the operator. Therefore, for some time, I have insisted upon general anesthesia if the patient is under twelve years of age. Infants, of course, can be circumcised without the use of an anesthetic, stitches not being essential, and one sweeping cut is all that is necessary. In such cases we cannot very much improve upon the method of the more advanced Jewish "mohl."

Where stitches are necessary (and the mucosa and skin should always be approximated in older children and adults), general anesthesia is especially desirable; for, as a matter of fact, insertion of sutures is more painful than excision of the prepuce. Moreover, the effect of any anesthetic injected into the tissues may be lost before the last stitch is placed.

This writer circumcises a good many people, and he finds anesthaine a satisfactory anesthetic where local anesthesia alone is desirable. After cleansing the parts thoroughly—the patient preferably having received one hyoscine-morphine-cactin tablet, half-strength or full strength (according to age or condition) an hour earlier—place a rubber band about the root of the organ, to shut off circulation. This must not be too tight, however, and the vessels should be emptied by pressure and elevation before it is fastened.

With a perfectly sterile syringe and needle, inject 1 or 2 minims of anesthaine into the skin at the point of incision. Into the wheal that is formed, insert the needle until the point is free between the two layers of tissue, and inject 3 or 4 minims in one direction; turn the needle upward and inject 1 or 2 minims more; then downward, injecting another minim or so; then to the side, throwing in an equal quantity. If properly done this will anesthetize at least one-half the tissues to be incised. Remove the needle and repeat the process upon the opposite side. Test sensibility after three or four minutes by pricking with the point of a scalpel. If necessary, inject a few more drops on the dorsum and about the frenum. As soon as anesthesia is complete, operate quickly, covering the patient's eyes before the incision is made.

It is always advisable to have an assistant control the legs. For some time I have made it a rule to place a broad bandage (a large bath-towel will do) over the body from neck to waist, pinning this securely under the table, to act as a restraining band. (Under general anesthesia this is omitted.) It is not desirable to inject too much anesthetic solution into the preputial tissues; and an aseptic technic must be observed.

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Query 5884.—"Raynaud's Disease." W. W., Mississippi, requests therapeutic and diagnostic suggestions in the case of a boy, age 6 years, fair health, looks pale, family history good. One year ago a callous area appeared on his great toe, which kept shedding and reforming, till that toe, bone, and all is gone. Never was very sore. The boy is walking all the time, and now the other great toe is going the same way. A little pus is discharged and little soreness obtains.

There is no question in our mind that your patient suffers from Raynaud's disease.

It may involve the fingers, toes, ears, nose, and occasionally other parts may be affected. On the ears and nose, however, the gangrenous stage is rarely reached. The first symptoms, as a rule, are coldness and slight hardening; sooner or later the second stage is reached, in which the parts become dark-red and bluish; and, finally, especially if the fingers or toes are involved, they may become atrophic and indurated, or a gangrenous condition may obtain, the affected area gradually dropping off in a mummified condition or cast off by the underlying inflammation or suppuration. The latter causes a resultant ulcer which heals slowly.

Raynaud's disease has been ascribed to many agencies: cold, exposure, disturbance of nutrition, sequence to severe systemic fever, nephritic disorders, and to various neuroses. An arteritis of syphilitic origin, however, undoubtedly is responsible for many cases; in others, the disease is of neurotic origin, a vasomotor nutritive disturbance.

Naturally, the recognition of the underlying pathological condition is all-important. Treatment, therefore, will vary in different cases. Elimination should be maintained, a full generous diet ordered, and reconstructant tonics prescribed.

Lecithin would undoubtedly prove beneficial. Some success has been secured from the use of the galvanic current; the positive pole applied to the fifth cervical and the negative over the last lumbar vertebra. The current should be moderately strong and continued for five to ten minutes. The positive pole may also be applied to the cervical region, the negative over the affected area.

In the later stages, local treatment is essentially surgical. Rigid antisepsis must, of course, be maintained. We should be inclined to make a Wassermann test in this case. Also test the urine for sugar; the boy may be diabetic.

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Query 5885.—"Drowsiness Versus Iodism." A. C., Michigan, desires to know whether drowsiness and sleepiness is produced by full doses of calx iodata. "I have never dispensed this remedy," he states, "but one patient complained of being so drowsy and sleepy after taking it. There was nothing alarming about this drowsiness at all, nor any untoward effects. I would simply like to know whether this is a usual effect of calx iodata. I am highly pleased with all alkaloidal preparations."

Calx iodata should not produce sleepiness or even drowsiness. This is not one of the effects of iodine in moderate dosage. It is just possible, of course, that a certain amount of drowsiness might accompany iodism, but you would have to give the element for a very considerable period or in very large doses to produce the condition.

We have given calx iodata to thousands of patients and have never observed the slightest sign of drowsiness.

The earliest notable signs of iodism are a peculiar metallic taste in the mouth (observed particularly in the morning), increase of salivary secretion, tenderness of the gums, slight loosening of the teeth, some morning nausea, with a lack of appetite and more or less gastric irritation; and usually some coryza. Acne comes on early if full doses of iodine are given, and, if the drug is continued, these symptoms are accentuated, the coryza becoming intense. Later, sore throat may develop, hemorrhages be complained of, boils, purpura, pustular and bleb-like changes in the skin make their appearance; in other patients, the nervous system seems to be most affected. There are neuralgic pains, twitching of muscles, general wasting of the mammæ, testicles, and other tissues. It is asserted by some clinicians that albuminuria may be observed in children after a course of iodine.

However, we have pointed out already, calx iodata and iodine are two very distinct things, the calcium-content preventing the undesirable action of iodine making itself manifest, unless unusually large and frequently repeated doses are given. Under the circumstances, we suggest that you carefully review your medication and see whether the drowsiness is not due to some other drug —or, more probably, to lack of elimination.

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Query 5886.—"Delphinine for Muscular Twitching." W. H. P., Rhode Island, has under treatment a neurasthenic woman who has muscular twitchings when she retires at night. The twitchings are chiefly confined to the legs. He asks whether delphinine is indicated. A large number of remedies have been tried without much, if any, benefit.

Delphinine might possibly prove efficacious here. Scutellaroid and avenine also frequently prove beneficial. In motor irritability, cicutine gives good results; so, also, solanine, pushed to effect, might advantageously be tried under the circumstances. The latter is a valuable antispasmodic, of particular service in epilepsy, functional disease, tetanus, and so on.

Cicutine acts through the medulla and spinal cord, causing paralysis of the terminal sensory and motor nerves. In all cases, therefore, in which it is necessary to calm excitement, relieve pain or overcome spasmodic conditions and "nervous irritability," solanine promises excellent results. Drug-sufficiency is indicated by an acrid burning in the throat and by drowsiness. When these symptoms appear, the dose should be rapidly reduced and intervals lengthened. Free elimination must, of course, be secured. On general principles, we should advise to use delphinine or solanine as the dominant remedy and scutellaroid and avenine as alternates. Prescribe 1-3 grain of scutellaroid and 1-2 to 1 grain of avenine, three times daily, preferably with hot water.

The American Journal of CLINICAL MEDICINE

Vol. 20 MARCH, 1913 No. 3

The Basic Principles of Therapeutics

THE science of therapeutics has received little attention until of late, and its study is difficult from the innumerable collection of agents it possesses as well as from the imperfections of all the proposed methods of classifying them. But this study may be facilitated if we begin with a few of the basic principles, those that govern the vast majority of cases where therapeutic applications are required. Among these we would rank those relating to the treatment of autotoxemia, to elimination, infection, nutrition, vasomotor imbalance, insomnia, pain, and the maintenance of vitality.

Autotoxemia comes first in relative importance, because of its all-pervading influence and the constancy with which its effects are presented in nearly every case of disease or ill-health we meet. The recognition of this one factor in disease is a master-key that opens many of the obscure places obtruding in the work of the doctor of medicine. Let this fact be known, and the evidences of its presence be rendered familiar, and the practician has a mastery over his cases which nothing else can give him.

Metchnikoff is right. The colon is a relic, and the manifold ills that take their origin therein are ill compensated by its function of acting as a receptacle for permitting one to retain nutritional residuum until a convenient time for disposing of it. By the time the fecal mass has reached the colon, the antiseptic action of the gastric juice has been exhausted, the absorption of nutritive elements has been completed, and there remains merely a collection of food residues, eliminative matters, and bacteria of innumerable varieties. We see then a mass of nitrogenous matters, putrescible, presenting these to the bacteria, together with the requisite warmth and moisture, and no safeguard of nature to restrain them. The free generation of toxins clearly is unavoidable under such conditions.

Why are not, then, the evils resulting from this condition constantly manifested upon all human beings? In reply to this, we might say that the harm is prevented by such regular evacuations that the fecal mass is not permitted to remain in the bowel more than twenty-four hours; and that to a reasonable degree we acquire immunity against any deleterious influence. But more nearly correct would be the retort that the evils *are* constantly being manifested.

Most intelligent mothers learn to associate the little sins of children—tempers, contrariness, and outbursts of passion—with abnormal conditions in the bowels. Many wives do the same with their men. Jennie Welsh Carlyle, on being complimented upon the fine address made by her husband the preceding evening, remarked that it would have been different had she neglected to give him his pill. But most men and women go through life under the influence of toxins, poisons absorbed from their own colons, and never suspect what makes them pessimistic, dull, unhappy, taking from them the keen enjoyment of life, paralyzing their efforts with a constantly iterated "what's the use?", and keeping them, not ill, but never well.

Is Metchnikoff further right in attributing old age to this cause?

I took a group of elderly men and put each upon a regimen that provided an absolutely complete evacuation of the large bowel once every twenty-four hours. Soon people began to take notice of these men—their clear eyes, fresh complexions, alert mentality, springy step and quick movements, surprising in men of their age. With this came the constant remark of how young they seemed for their age. Good humor and happiness dwelt on their brows. Swift decision and confidence characterized their business operations, as youthful buoyancy accompanied the wisdom of age. They actually seemed to be growing younger. This has continued for several years without any sign of diminution or reaction.

My recognition of the effects of fecal toxemia as an etiologic factor in chronic disease came originally from a remark of Lauder Brunton, to the effect that the cause of locomotor ataxia and other chronic affections of the spinal cord would eventually be found to be the absorption of toxins from the alimentary canal. Chronic inflammations are not inflammations, but degenerations. It is obvious that the causal principles must be conveyed to the affected tissues by the circulation. Given a blood stream constantly contaminated by a taint of fecal poisons, and we have the requisite influence to set up a slow but progressive degenerative process. Apply this to every part, organ and tissue of the body, and we have before us the causation of chronic disease.

The question of why, when this impure blood is furnished to every part of the body, the evil effects should be manifested in one place rather than any other is readily answered:

There is in every human being some one place less perfectly protected than the rest—the *locus resistentiæ minoris*. Here the evil influence will first be manifested, and local disease results. In time other organs should fall under the same debilitant process, and this is in accordance with clinical observation.

The incidence of acute disease is likewise deducible from our hypothesis. Every part of our bodies is subject to the constant assaults of innumerable microorganisms. Given a weakening by the fecal strain in the blood, and either an especially virulent swarm of microbes or a local weakness from trauma or other debilitating accident, and acute local disease is developed. Such an attack shows that the defensive forces of the body have for the time failed, and the invaders have effected a lodgment in the fortifications.

In febrile maladies the role played by fecal toxemia is even more important. The enormous radiation of water from the body leaves the blood so concentrated that it avidly absorbs fluids from every available source. The fluids of the feces with their contained toxins are thus taken into the circulation at a greatly accelerated rate, and fecal toxemia, therefore, forms an integral factor of every fever. The increased heat and the general weakening of the defensive forces of the body, sometimes with the presence of especially virulent microorganisms in the bowels, occasions the development of toxins more pernicious than in health. Hence the complete and repeated emptying of the alimentary canal and the use of intestinal antiseptics form an essential part of the rational routine treatment of all febrile attacks, without reference to the character of the specific disease or its cause.

Coming finally to those maladies in which the alimentary canal is invaded by specific organisms that reproduce there, few, if any, deny the role to be played by the method herein advocated. In the cholera group, in typhoid fever and dysentery, the alimentary canal forms the battle-ground where we may meet the enemy face to face. Empty the bowel and disinfect—"clean out, clear up, and keep clean." Calomel or podophyllotoxin, dear old epsom in its modern and perfected form as an effervescent draught, and the sulphocarbolates are responsible for saving many a valued life.

To any and all objections that may be urged against the hypothesis here presented, we have the one only reply—Try it for yourself. Try it, not with too ready assent or blind confidence, nor yet with the settled determination to find it fail; but with a mind free from prejudice and open to conviction, ready to welcome anything that may aid in our great work, but demanding that it shall be really an aid and not the hasty conclusion of a rash enthusiast.

How best accomplish this object?

Man is born to trouble as the sparks to fly upward. So, nearly everybody assumes that all the need is to give a cathartic, and if the patient says it acts let it go at that.

The matter is far more difficult. I have spent three weeks, trying to empty a woman's bowels, before succeeding as I wished. Usually men give a decigram of calomel and half this of podophyllin, every hour for six doses, and follow with a laxative saline. I do not like podophyllin—it is too gripy. Podophyllotoxin is much better, in half the dose.

Calomel is usually preferable, as it acts quicker and with less distress—none at all, in fact. But in all cases it should be accompanied by colonic flushing with warm soda solutions, repeated every eight hours as long as the stools come away dark or offensive. Old-fashioned folk may take castor oil or senna in full doses.

After the bowel has been cleared it is easy to keep it so with the saline laxatives alone. One may detect fecal masses in the abdomen by massage, but this takes practice—it is often singularly difficult.

The next article of this series is to be devoted to elimination.

While others wake 'tis ours to dream—
  Let us be glad for dreaming,
For present cloud and coming gleam,
  For shadow and for seeming,
For dreaming of the pleasant ways
  With joy to lend or borrow—
Be glad for cherished yesterdays,
  Be thankful for tomorrow.
—W. D. Nesbit.

THE PROSPERITY OF THE PHYSICIAN

Mr. Clough, our advertising manager, has been conducting an interesting investigation among the readers of this journal, in order to get some idea of their various degrees of prosperity, and also to ascertain, as far as possible, in how large a degree Clinical Medicine is serving their needs, both through its reading and advertising pages.

In pursuance of this idea, Mr. Clough sent out to subscribers 1000 letters, taking at random from our list the names of 25 physicians from each of 40 different states; and he received 651 replies. In his letters he asked a series of questions intended to elicit the opinions of each recipient upon a variety of subjects, as well as to secure information concerning the financial status of those replying. It is not necessary to reproduce all the questions, some of them being of interest mainly to advertisers, but here are a few of them, together with the answers received.

To the question, Do you own your own home? 657 physicians replied yes, and 81, no.

We learn that 311 physicians of those voting own automobiles, while 326 do not; 213 of the latter are contemplating the purchase of cars.

When asked whether they read the advertising pages of Clinical Medicine, 625 answered yes, and only 15, no; 529 stated that they purchase things advertised in the journal, while 101 do not.

When asked whether pure foods should be advertised in medical journals, 589 replied yes, and 39, no. The vote was about the same upon the advertising of automobiles and accessories, roofing material, and hygienic devices for the home.

In answer to the question as to how many medical journals they read, 17 said one; 57, two; 94, three; 151, four; 133, five; 90, six; 19, seven; 26, eight; 22, more than eight, and 75, "several." The average is between four and five.

When asked what two journals they considered the best, The American Journal of Clinical Medicine was mentioned by 512; *The Medical World* was mentioned by 123; *The Journal of the American Medical Association*, by 118; *The Medical Council*, by 36; *Ellingwood's Therapeutist*, by 25; while 48 other journals were mentioned by from 1 to 15 physicians each.

You may draw what conclusions you like from these votes. One thing is certain, namely, that the readers of Clinical Medicine—whatever may be the status of other physicians—are *not* a poverty-stricken lot. With 87 percent living in their own homes, nearly 50 percent flying around the country in their own motor cars—and 33 percent of the remainder in the market for automobiles, needing but the persuasive "touch" of the skilful salesman to purchase one—it is not difficult to see why it is difficult to get up a discussion in The Clinic regarding "the poverty of the American doctor."

Another point that sticks out is the intense interest shown in the advertising pages. by the majority of our readers. And this is as it should be. Every forward step in medicine is proclaimed first, and with greatest detail, by the advertiser. New remedies, new apparatus, surgical instruments, office and hospital accessories, dispensing conveniences, the driving outfit, the automobile and its equipment, furniture for the home, conveniences for the care of the sick—everything, in fact, that the physician can use to good advantage—should be mentioned in the advertising pages of the up-to-date medical journal.

Such a periodical should be a veritable "cyclopedia" of the physician's requirements—personal no less than medical—so that he can turn to it with confidence and satisfaction when he contemplates making a purchase. It is such a cyclopedia that we are trying to make of Clinical Medicine, and we appreciate the thoughtful cooperation, to that end, of our subscribers. Keep on reading the advertisements, by all means.

The vote on "the best medical journals" naturally pleased us. That 80 percent think our journal the best of its kind is enough to make any editor proud—especially when he stops to consider how many fine, able, scientific, brilliantly edited journals, counting among their contributors the best in the land, we have to compete with.

We are determined to go forward, but to do so we need the help of every reader—*your* help. Make it a personal matter—what can *you* do to increase THE CLINIC's interest and value? There is not a single doctor who reads this line who could not, if he would, give us one brief, pointed, practical, boiled-down real "alkaloid" of therapeutic helpfulness.

Now—those of you who love us, give us those brief practical reports. Those of you (the very few) who criticize, send us just the kind of paper (brief, helpful—cold water and hot air all squeezed out) that you think we should print!

Let's all take hold to build—to make CLINICAL MEDICINE better, and still better. Everybody, please!

Be as charitable as you can toward those who see things not as you see them. For maybe you are wrong. It is possible.—Stevens, Eclectic Medical Review.

ANTITYPHOID VACCINATION

Louis and Combe, assistants to Vincent at the Laboratory for Antityphoid Vaccination at Val-de-Grace, publish, in *Le Monde Médical* for December 5, 1912, an interesting account of the work done there. Their conclusions are drawn from an experience of more than 8000 vaccinations.

Antityphoid vaccination should be advised for persons living in localities where the drinking water is doubtful, ill supervised or exposed to contamination; for those compelled to travel or sojourn in places where typhoid fever is endemic; especially great cities, towns of the south, and the colonies. Its use is advisable in families of typhoid patients, if not negatized; also in those of former patients who may be carriers. It is, of course, urged in the army, navy, and colonial service.

The indications are numerous and varied. The perfect benignity of the method, the extreme facility of its application, the very simple technic, at the disposal of every practician, recommend it strongly. It may be done at any age liable to fever, even in infants of three years or more, who bear it well.

Antityphoid vaccination can not and must not be applied except to healthy persons, giving this term its strictest acceptance. All acute infectious diseases, of every sort, contraindicate its use. Most progressive chronic affections are equally contraindications.

Attention should be especially directed to the avoidance of vaccinating the tuberculous, who after the vaccination present general reactions, with fever lasting several days. This is similar to that following tuberculin. An abnormal reaction following antityphoid vaccination in a subject deemed healthy, if he has not had typhoid fever previously, should arouse the suspicion of tuberculosis. In case of an old tuberculosis, long since cured, use the vaccine only when necessary.

Persons suffering from malaria may take the vaccine during the intervals only, with a Gram of quinine hydrochloride between each two, some hours before the expected paroxysm. Failing this precaution, the injection of vaccine at the beginning of a chill, during fatigue or traumatism may arouse a slumbering paludism and occasion a paroxysm.

Syphilitics, not enfeebled, may be vaccinated, provided they present no accidents in evolution. It is necessary to deny this vaccination to persons whose general health is seriously impaired, to cardiacs, nephritics, diabetics, to the subjects of mucomembranous enteritis.

With the female, the series of injections should be interrupted by menstruation and resumed later. Finally, with subjects debilitated, overworked, fatigued, enduring mental strain, the vaccination should be postponed until their condition is satisfactory.

Injections of the bacterin can be practiced without fear during an epidemic, if the patient presents none of the prodromes of typhoid fever. Besides, if the subject is already infected with typhoid germs, the injections will do no harm, and even seem to have a favorable influence over the development of the disease.

Should one vaccinate those already attacked with the disease? To answer affirmatively, would be to deny the principle of vaccination; but a previous attack does not confer absolute immunity, for this attenuates progressively and finally disappears. Its duration seems to be at least two years. After this period revaccination is advisable.

The site of injection is the back of the left shoulder (the right in left-handed persons), on a line prolonging the internal border of the arm, two fingers' breadth above the axillary fold, behind the posterior border of the deltoid muscle. This region, poor in nervous filaments, has a loose cellular tissue that absorbs easily the subcutaneous injections. The prick of the skin is scarcely felt, the local reaction insignificant, and the subsequent pain is *nil*, unless aroused by extensive movements of the upper arm.

The field is disinfected by painting with tincture of iodine; the ampule is well shaken, to render the emulsion homogeneous; before breaking the neck of the ampule paint it with iodine. Do not apply heat, as this may impair the vaccine. Let the iodine dry and then snap the neck of the ampule. Take the syringe, sterilized and cooled, affix the needle and draw in the dose designed.

The same vaccine is used for children, the doses being reduced. At between three and eleven years inject half the adult doses; at from eleven to fifteen years, two-thirds that amount.

The syringe being charged, bury it under the skin in the subcutaneous tissue; not in the skin, the muscle or under the aponeurosis, for fear of local reaction. The liquid should be injected slowly, the needle withdrawn, and a drop of iodine applied over the puncture. Do not massage the place of injection, or the fluid may be absorbed too rapidly. All active movement of the arm should be avoided for several hours, for the same reason.

When many persons are to be vaccinated at one time, then for each use a needle sterilized anew by boiling, and a syringe rinsed many times in boiling water and cooled before using. Often, in fact, a little blood flows back into the syringe at the moment of injection and exposes the next subject to the possibility of infection. With two syringes, it is easy to proceed with vaccinations collectively.

The injections are made every seven days; in case of need, there is no trouble in prolonging the intervals to ten days. The vaccination need not interrupt the ordinary work, the following simple precautions being observed:

1. On the day of each injection abstain from all fatigue or excess (late hours, copious repasts, alcohol).

2. Instruct the patient that he is not to consider himself vaccinated until he has received the whole series of (three) immunizing injections, and for six days thereafter.

3. Warn him of the slight reaction that will follow each injection at the end of about three hours: local reaction, swelling, slight tenderness, especially aroused by movements of the arm, a sense of bruise, of a blow on the point of the shoulder, these disappearing by the next day.

4. Prescribe, if he feels headache or slight fever, some mild antipyretic, such as acetanilid. Ordinarily the present writer would prefer a few doses of aconitine to quiet any febrile reaction.

The best hour for the injections is from 4 to 6 p. m. Reactions then pass during sleep; this is an advantage, especially with neuropaths.

The whole operation is as simple as an injection of morphine.

The following observations, made by Louis and Combe, are worthy of consideration:

1. If during the series the patient contracts any intercurrent affection, however slight, the vaccination should be immediately suspended. It should be resumed only after the complete disappearance of the symptoms, one or two weeks later, when health has been completely established and convalescence ended. On recommencing, repeat the last dose preceding.

2. The incubation of typhoid fever being fifteen to twenty days, during an epidemic some must receive the injections during the incubation period. The attack will occur, but the injections received may favorably influence the course, attenuating its gravity and its duration, by the partial immunity established.

3. Infection may occur during the vaccination period, the course being likewise benign.

4. If a person believing himself infected with typhoid fever applies for vaccination, it may be done without fear if he presents no morbid phenomena. Even the primary injection may abort the attack. Vincent has made many observations on bacteriologists, who, accidentally contaminated in their laboratory work, have been totally protected against typhoid fever by an immediate vaccination.

5. The site of injection may present an induration, unimportant, persisting many days, even a week. Nevertheless the other injections are made in the same vicinity.

6. The three injections are made on the same side.

It would be premature to fix the duration of immunity, but the minimum is given by the writers as two and one-half years. This agrees with the observations of Russell, in the United States Army. Analogy would indicate its persistence for five to seven years, as is the case with typhoid fever.

The writers state that, as observed in the French army in Algeria and in garrisons at home, the method has proven itself free from danger and highly efficacious. At the time of writing more than 27,000 persons had received prophylactic injections against typhoid fever in their entirety, and not one of these has presented since vaccination the symptoms of the disease. "We are," they say, "indisputably in possession of a method which, it is not audacious to claim, is for typhoid fever what the Jennerian vaccination is to variola."

The results it has given up to today in Morocco have passed all hopes and convinced the most skeptical. "The antityphic vaccination," writes the chief physician of the Hospital St. Louis, Mequinez, "is pursued here in intensive fashion. There remain in all the garrison no more than about 200 Europeans to be vaccinated. The results are surprising. The typhoid ward, hitherto so overcrowded, is today almost empty. Out of over 4000 troops there are actually only two under treatment for typhoid fever. It is marvelous!"

It will be observed that these findings are directly in accord with those made by medical officers in the United States army. While up to the present time typhoid prophylaxis has been nearly confined to the military service, the time is coming when it will be as extensively employed for the prevention of typhoid fever in civil life as smallpox vaccine to prevent variola. Already Dr. William H. Park, director of the Research Laboratories of the New York City Department of Health, has made arrangements to provide this bacterin for general use in the great metropolis. The wise physician will see the tendency of the times and be prepared to forestall any epidemic of typhoid fever in his own community by resort to this agent.

THE PROTEAN TUBERCLE BACILLUS

The more tuberculosis is studied, the more numerous the problems to be solved appear to become, and each new decision, each new settlement of a moot question appears to be followed by a score of others.

After Villemin had shown, in 1865, the infectious character of pulmonary consumption, it was believed that all that remained to be done was to find the virus responsible for the infection and for the infectious disease; and when Koch succeeded, in 1882, in demonstrating the bacillus that has been named after him, and is still called Koch's bacillus by French investigators, it appeared as though the problem were solved.

It was not many years later that Karl Spengler described what he called "splinters" of tubercle bacilli, or fragments; and within the last five years Much, of Hamburg, has demonstrated by certain staining methods the occurrence of granula in many tuberculous lesions that do not always take the carbol-fuchsin stain, but which are Gram-positive. These granula of Much are believed to represent a degenerated or attenuated form of tubercle bacilli, and their more or less remote identity with the latter is shown by the fact that they may undergo a recrudescence of virulence and again assume the character of an acid-fast rod. Dr. Much published many reports on his interesting studies, since 1907, in Brauer's *Beitraege zur Klinik der Tuberkulose*, and his method was recently discussed at great detail by Constantini, in *La Riforma Medica* (cf. *The Universal Medical Record* for December, 1912).

This does not, however, exhaust the possibilities and the problems of the tubercle bacillus, since particularly French physicians, among them Gougerot, also in the course of the last five years or so, have shown the occurrence of tuberculous lesions, usually acute, and characterized by severe septicemia, which do not present the anatomical characteristics of tubercle and in which even tubercle bacilli often are not to be found; yet they can be shown to be tuberculous in nature and due to the action of some form of tubercle bacilli.

Shall we conclude that the work of Gougerot and that of Much dovetail, and that the finding, by the latter, of granula which do not take the carbol-fuchsin stain but which are Gram-positive may offer the explanation of Gougerot's acute bacillosis, or the septicemic form of tuberculosis?

The same number of *The Universal Medical Record* says in an editorial discussion of the subject of tuberculosis that Dr. Foulerton has long maintained that the tubercle bacillus is really a streptothrix; but it would seem that we shall have to recognize not only a streptothrix form but a non-acid-fast bacillary phase, and a coccus stage which is characterized by being Gram-positive, and which is curiously alike to what Rost and Williams believe they have proved in respect to the leprosy bacillus.

And here is another curious fact, namely, the strange similarity in many points of leprosy and tuberculosis; but to discuss that would lead us very far afield.

Reform is in the air. The whole world is up in arms. The old is going, the false is passing, and every man is searching in his heart to determine whether or not the things that he has believed are true and the things that he has done, right. Apply this new (and yet eternally old) morality to your own methods—your own practice. How can you think straighter—do better—accomplish more?

FEWER AND BETTER DOCTORS

It is a matter of common remark, among the laity no less than in the profession, that the standards and fitness of the medical profession are slowly but surely growing higher and better. Within the last twenty-five years the number of physicians has absolutely increased, to be sure; but the relative proportion of physicians to the population has quite noticeably decreased, and in the past six or seven years it is a fact that the number of physicians in the United States has decreased absolutely as well as relatively. And with this decrease in numbers there has been a marked improvement in the quality of the physicians themselves.

With that disposition to introspection which characterizes the present century, both laymen and physicians are seeking; and offering, reasons for this very desirable state of affairs. The medical view of the matter is undoubtedly expressed in the recent utterance of Dr. Chas. L. Dana, of New York, which attributes the change to the increased requirements for a medical diploma, and the falling off in the number of medical colleges. He points out that since 1900 the number of medical colleges in the United States has been reduced from 151 to 116; "and this decrease," he adds, "has been accompanied by a marked improvement in the quality of instruction and in the qualifications of the graduates."

He further points out, as a still more significant fact, that there are today 5000 fewer students in the medical colleges than there were no longer than seven years ago. The entrance requirements have been made higher, and likewise the requirements for graduation. And, with increasing knowledge and more thorough training, the work of these doctors is tending more and more to the prevention of disease, through sanitation and hygiene, with less necessity for the curative function.

All of which is undoubtedly true, as far as it goes. But it does not seem to me that it reaches the real underlying causes that are making for higher efficiency in medicine, as they are making for higher efficiency in every department of specialized work. The higher requirements and better education of medical students are not, in fact, the causes of the improvement, but the methods by which this improvement is brought about. We must search deeper and broader for the causes. It is to be remembered that medicine is, after all, only a specialized branch of the world's work; the medical profession only a class delegated by the public, upon the principle of division of labor, to carry out this branch of its work. And, as a stream cannot rise higher than its source, so the character and efficiency of the medical profession, and the quality and scope of its work, cannot, on the whole, transcend the average of public intelligence and demand.

The real underlying reason for the rise in medical efficiency is that a more intelligent and discriminating public is demanding a higher degree of efficiency and a wider range of usefulness on the part of the physician. Not that there is here any belittlement of the marvelous achievements of medical science itself, or any implied denial that the actual modes of advance, both as to education and also as to scientific agencies, are initiated within the profession. No physician, I should hope, but is justly proud of his membership, however humble, in such an honorable and progressive body. But the motive force of all this progress resides, after all, as I have said, in the demand sent out by the steady general development of public intelligence as a whole.

And—for this is the point that I wish ultimately to make—in this uplifting process the great rank and file of the general practitioners have played a most extensive and important part. They are the men who are in continual vital touch with the great public. They constitute the point of contact between medical science and its peripheries of practical application, which are the final test of its adequacy and efficiency; and, through them, both the demands and the results of this final gauge are transmitted to the centers of medical organization and initiative. Upon their keen appreciation and intelligent interpretation of the public needs, and their effective and faithful transmission of the stimulus to the center, depends the prompt and adequate response of medicine to the demands of the times.

One of the most notable signs of the times, in this respect, is the tidal wave upon which internal medicine is once again coming into its own. For this, also, the sanity and clear vision of the man at the front, and his sensitive alertness to live issues, are largely responsible. He has been steadfastly holding a courageous line, all these years, against the inroads of therapeutic nihilism and surgical mania; and some of us have been confidently banking on his ultimate ability to turn the tide. Now the tide has turned, and the practitioner's persistence and our confidence in him have justified themselves. He has not only "put across" his demand (the public's demand) for therapeutics, but is insisting upon an exact, efficient, twentieth-century therapeutics. And he will get it.

Science in general is based upon accepted opinion, but in every detail is exposed to the scrutiny of individual research. The whole aim of scientific training is to teach reliance on one's own findings.

—J. Rae, Universal Medical Record.

MALINGERERS AND MALINGERING

Among the many difficulties that beset the practician of medicine, not the least are those presented by the folk who simulate disease. One branch of this troublesome breed embraces those who seek to secure monetary balm for injuries they never received. The transportation companies pay a heavy toll to this species of graft and usually find it advisable to settle if there is a plausible case presented by the alleged victim, rather than incur the expense of a suit, with the sympathy of the community on the plaintiff's side. Why the railways, which confer such incalculable benefits on the community, should so mismanage as to have public opinion invariably arrayed against them is another story, and one that will be told when a manager is developed who will appreciate the money value of public sentiment and adopt the easy methods of winning it.

More closely touching our personal interests are the malingerers who turn on their benefactors and seek "damages" from the doctor who has faithfully given his best efforts to cure them. Malpractice suits are rarely entered against the illiterate pretenders, but the victims are naturally sought among the prominent members of the profession who possess wealth of which they may be mulcted. Yet the method in such selection never repels the public, which too often sides with the plaintiff, instinctively. The reason for this attitude is not generally appreciated, but becomes apparent upon reflection.

The average man resents any real or implied assumption of superiority. The formation of an exclusive guild, separated from the masses by the constantly lengthening scolastic term, puts the physician out of touch with the people.

"The doctor has attended college until his youth is past; he is a creature of science; he smells of the laboratory, the microscope, vivisection, serums, and that terrifying last chance, the operation. His fees are scarcely less appalling, for medical education is overcostly in money and years. He is a being apart, to whom common men must doff the hat. Naturally so lofty a being can have little sympathy with poor, hungry, dirty, everyday humanity, can have little appreciation of our conditions, needs, possibilities. But Billy, here, the druggist on the corner, or Sam, who taught himself how to doctor horses, he is one of us. We accept with unaffected delight the notion of taking a rise out of his toplofty highness; but Billy and Sam belong to that greatest of guilds, ourselves, and they have done the best they could, so that to blame them for not knowing more never occurs to us. Dr. Lofty, A. B., A. M., M. D., and all that long string, claims to know it all; so let him stand for it. He charged old Heath $500 for operating on him, and Heath had to mortgage his shop to pay the bill." Thus they muse.

This antiprofessional sentiment is part of the great world's schooling by which the rough corners of men are rubbed off. Pretense is eliminated when assumption is challenged, and a man must make good or go back to his place. It is the law—the highest of laws—touching that fundamental truth that Darwin reached when he recognized the struggle for existence, and which Emerson realized in his law of compensation.

There is another form of malingering to which we may turn with less solemn mien. A clipping before me tells of a woman, 72 years of age, bed-ridden for five years. The house took afire and her daughter carried this old woman, from the top floor to the street, on her back. Then the invalid found herself possessed of strength to walk a block to a friend's, and after the fire was out to walk back and up to the fifth story, unassisted. Reminds me of a case. A woman, aged 35, weakly, brainy and cultured, but not pretty, years separated from a dissolute husband but not divorced, with no child to distract or occupy her life. She was penniless, earned a scanty living, by the aid of constant tonics, had nothing to live for or to expect from life. She was a superfluous woman; so she took to her bed, and at last accounts had occupied it for five years.

Why not? What else could she do? Sexless she had ever been. She had no active interest in life, no wish to die. She bided her time. Some day, as the years go by, there will arise a new cult, a new prophet. She will attend his preachments, his hands will be laid upon her head in healing, and a new miracle will be worked. This woman who has been bedridden, lo, these many years, rises up and walks, cured in an instant and without resort to those ungodly doctors or their devil-created drugs. She is famous; her name gets into the papers, and willing hands are thrust into the pockets and endow her with the means of sustaining life, and maybe even luxury. Life has an object, now that she is lifted out of the ruck and made an object of public interest.

But, what was there to treat, since there was nothing the matter with her? She simply lay abed because she did not care to get up and work. What she needed was some incentive to live and to work. If some man had married her in her younger days, and left a fine boy to whom she could have devoted herself, she would have been cured. No such thing happening, she could only wait till the opportunity to enact the role of the miraculously cured came along.

The world is full of women who are invalids for want of a sufficient reason for being well, strong enough incentives to life and activity, to working and scheming, to occupy to the full their faculties.

Is it not the duty of the physician to find remedies for such conditions, as much as to stimulate a failing heart or tone a weakening nerve? Neither laboratory nor textbook aids us here. There is something beyond these crude helps. The great book of nature must be studied. It is psychology, anthropology, sociology, cosmology to which we must turn. Make the woman an active, useful member of society. Give her something to live for so absorbingly interesting that she will forget herself. Let her *want* something as energetically as did Cushman at Gettysburg, when he held up his protruding bowels with one hand while with the other he fired the gun one more time into the faces of the advancing foe.

Some of the most exquisite laces and tapestries have been produced by shut-in, bedridden women. Clark fought down the agonies of cancer to complete his last book. Anstie struggled against the pangs of angina pectoris to give the profession its best treatise on that malady. From her sick-bed Elizabeth Barrett Browning sent out her messages of love and human kindness. Alexander Pope ruled the literary world of his day with a body held together by the utmost art of the contemporary practician. DeQuincy and Poe gave the world their delightful creations, from bodies racked with suffering, and unwittingly taught another lesson to the illuminate, for intentioned with each exquisite figure struggled the dark and sinister opium-demon.

No woman is, or can, be in good health--physical, mental and moral—who has not somebody or something for which she cares more than for herself.

LEGISLATIVE DANGERS--LOOK OUT!

It is to be regretted that at this time of the year it becomes perennially necessary to warn the medical profession against dangerous or poorly drafted legislative measures affecting their interests. Unfortunately, the number of these bills is increasing, so that it behooves the physician to be constantly on the alert, especially if he happens to dispense his own remedies.

Such a bill has recently passed the lower house of the Indiana legislature, and it is in danger of becoming a law. Section 1 of this bill (House Bill 277) reads:

> That it shall be unlawful for any person except a registered pharmacist to retail, sell or give away any cocaine, alpha- or beta-eucaine, opium, morphine or heroin, or any salt or any compound, or derivative of any of the foregoing substances, or any preparation of compound containing any of the foregoing substances, or any of their salts, compounds or derivatives, and then only upon the written prescription of a duly registered physician, licensed veterinarian or licensed dentist; and it shall be unlawful for any duly registered physician, licensed veterinarian or licensed dentist to write, deliver or dictate, either directly or indirectly, any prescription to or for any habitual user of any of the drugs enumerated in this section.

There is more in this section, and a good deal more in the bill. For instance, it prohibits refilling of prescriptions containing narcotics (which is right), it requires the labeling of packages containing any narcotic with the word "poison" (which is putting it rather strong for every cough tablet, diarrhea mixture or hypodermic tablet), and it is so arranged, by specific exceptions, that it will not disturb the patent-medicine men in their business at all!

It is apparent that, by the terms of the bill as framed, the physician would be prohibited from dispensing in his practice any opium, morphine, codeine, heroin or cocaine.

He could not legally administer a hypodermatic dose of morphine without first writing a prescription, and perhaps not even then! He could not put a drop of cocaine in a patient's eye without violating the law. He could not even write a prescription for a narcotic for a drug-habitué, no matter what might be the emergency, and not even if he were trying to cure his patient of the habit from which he was a sufferer.

We understand that this bill was slightly modified before its passage by the House, so as to protect the physician in his right to administer his own remedies. It is now pending in the Senate, and Indiana physicians should keep advised of its future progress.

* * *

From several Kansas physicians we have learned that a bill to prohibit or limit dispensing by physicians has been introduced or will be introduced in the legislature of that state. We have no copy of the proposed law, and therefore are not prepared to advise you as to its details. However, in the December number of *The Journal of the Kansas State Medical Society* there is an article by Professor L. E. Sayre, of the School of Pharmacy of the State University, urging state inspection of the physician's drug supplies. It has been the fashion to assume that the physician uses cheap drugs. There is no doubt that by submitting the physician's supplies to inspection by a board of pharmacists, naturally not very friendly to doctors who carry their own remedies, no little annoyance could be caused the medical profession in Kansas.

As a matter of fact the imputation that physicians who dispense their own remedies use drugs which are inferior to those available in drugstores rests upon no sound foundation of truth. The evidence is in the main mere assertion or based upon the records of occasional and segregated cases. Since the Bureau of Chemistry of the Department of Agriculture at Washington has been examining the drug supplies handled in interstate commerce it has been weeding out the poor stuff, until any manufacturer who sells inferior drugs to physicians does so with the likelihood staring him in the face that he will sooner or later be called upon to pay a fine that will make it unprofitable for him to continue in his evil or careless ways. The dispensing doctors' remedies, therefore, are hedged about and protected by ample safeguards; they are undoubtedly just as carefully watched as are the druggists' supplies in any state in the Union—more carefully than they are in most states.

We are interested in and anxious to promote drug purity (it will lead inevitably to a recognition of the advantages of active-principle medication), and we shall be glad to see uniform inspection of all drugs, under conditions which will be fair to every party concerned and so framed that these conditions can not be used as a means for the persecution of any special class. This whole matter is one deserving careful discussion, and the physician, as the party most interested, should be given ample opportunity to thresh it out in all details.

We are sure that the physicians of Kansas will object strenuously to any bill likely to affect their interests being rushed through without their being given an opportunity to present their side of the matter. Especially iniquitous would be the introduction of any measure to prevent doctors from self-dispensing, affecting as it undoubtedly would the professional methods and financial interests of 90 percent of the profession in Kansas. We have too much class legislation in this country, and the doctor's position is already difficult enough.

Therefore, we advise our Kansas readers to keep close to their law-makers this winter.

Drugs, by themselves, have restored to usefulness and saved the lives of more people than all other curative attempts combined. And one need not be a crank on drugs to appreciate that.—Vermont Medical Monthly.

PNEUMONIA THE DEATH-CAPTAIN

"Pneumonia, as usual, leads as the chief cause of death, its record for the year being 5056, an increase of 127 over the preceding year."

We quote this from the *Bulletin* of the Chicago Department of Health for January 4, 1913. A disease that now leads all others in the number of its victims, which is constantly increasing, and for which medical science, as taught in the schools and in our textbooks, offers little in the way of treatment is certainly worthy of something more than passing notice, especially since there *is* one class of medical practitioners who have really been able to do something for it.

A little more than a year ago Wolverton published in *Merck's Archives* the report of 200 cases of pneumonia with only 5 deaths; 4 of these deaths occurred among the 59 cases of bronchopneumonia; among the 141 cases of lobar pneumonia there was only one death. Compare these results with the published mortality tables—those of Wells, for instance.

Yet Wolverton's experience is not exceptional; it has been that of hundreds of other able practitioners who rest their faith upon the defervescent active principles. It is because we have received report after report of like success when pneumonia has been treated by this method and with these remedies that, with all confidence and with the assurance that we are absolutely right, we assert that the enormous death-roll from this disease is entirely unnecessary.

We have said this before; but we wish to hammer it home again. We urge you, we beg of you, to give this method a trial, laying aside all preconceived ideas, all stereotyped theories. You will find the details carefully described in Dr. Candler's paper published in the January issue of CLINICAL MEDICINE. If you have not read it, do so now. If you have read it, read it again.

Unleash your imagination. Exercise your logic. Keep questioning and reasoning and sooner or later you'll find a flaw or found a law or discover a scheme that means promotion or independence.

—Herbert Kaufman.

USELESS PREPARATIONS OF ACONITE

Two Toronto therapeutists, Rudolf and Cole, in *The American Journal of the Medical Sciences,* present a study of the effects of medicinal doses of aconite upon the pulse-rate. By medicinal doses, they mean those recommended in the Pharmacopeia; and by aconite, they mean the tinctures of the United States Pharmacopeia and of the British Pharmacopeia.

The repute of aconite began with Fleming's thesis, published in 1845. Fleming employed the tincture since known by his name, and his doses were equivalent to 1-2 to 1 dram of the present U. S. P. tincture. From this dosage he certainly secured slowing of the pulse and relaxation of arterial tension! Ringer introduced the practice of giving doses of a minim every ten minutes, and in this he has been followed by many.

In sufficient quantities, aconite is a violent poison, killing by paralyzing the respiratory center. In less than lethal doses, it slows the heart by acting on the vagus, and lowers vascular pressure. The therapeutic action for which it is administered is stimulation of inhibition of the heart, without affecting the cardiac muscle.

Rudolf and Cole say: "F. W. Price found that all the samples he obtained from reputable druggists in England were inert when tested in Professor Cushny's laboratory." Rudolf and Cole used three tinctures found in the Toronto General Hospital, from three reputable wholesale drug firms. One B. P. tincture from a well-known firm, "tested both physiologically and by assay in the laboratory, and which we guarantee is of B. P. strength," when it was tested three months later was found to be "very weak." Finally, some pure crystalline aconitine was secured, made into solutions equal to the official tincture in strength, and proved active. Nevertheless, this also was found to be deteriorated after some weeks.

The experiments were made upon patients with normal and others with fast pulses. Some had fever, others none. In none of the 55 cases were there any decided effects upon pulse-rate from the usual or official doses. The favored test employed was Squibb's, the tingling produced upon the tongue by contact of the drug. A dram of the dilution was held in the mouth for one minute and then ejected—the tingling should be perceived within ten to fifteen minutes. Taylor considers this the best practical test. None of the tinctures tried gave this reaction, but the solution of crystallized aconitine of the same strength gave it very distinctly. Three months later this same solution failed to give the reaction, until the strength was increased fourfold.

The conclusion arrived at was that the reports of therapeutic efficacy of small doses were erroneous. Marked and even dangerous effects following small doses are attributed to mistakes in dispensing or administration or to idiosyncrasies.

The writer gave to a class of nearly 100 medical students each a granule of aconitine of 1-800 grain. Every man noted the tingling of the tongue, too decidedly for mistake, within five minutes, and some in less than a minute. These granules were at least a year old, possibly older. Granules more than twenty years old have given the same reaction just as decidedly. There was no appreciable deterioration in any of these. Pure milk-sugar preserves the activity of this alkaloid indefinitely in the dry state.

This is a valid argument against those who propose bowing to the conservatism of the profession by supplying solutions of the pure alkaloids, of the same strength as the official tinctures when freshly prepared and of full U. S. P. strength. The Toronto observations dispose of this proposition.

The observations also point to the fact that many are using this powerful drug with too great caution. Aconitine has been heralded as so exceedingly perilous that many give even the small doses with trepidation. Many begin its administration for febrile conditions with fear, and before the doses have reached the point of efficient sedation get "cold feet" and change to the far more dangerous acetanilid.

Even to children but two years old the granules of aconitine may be given in doses of a single granule, 1-800 grain of the crystallized alkaloid, every half to one hour—*provided always* that a fully competent attendant stands ready to stop the medicine when sufficient effect is manifest. Otherwise it is best—and surely effective—to give smaller doses repeated every five or ten minutes till effect. But von Renterghem determined that the full, i. e., maximum, twenty-four-hour dose of the amorphous aconitine supplied either by Merck or Chanteaud was 5-6 grain, or 0.05 Gram. The dose of crystallized aconitine (which is the only body now allowed to be sold in the United States as "aconitine") given by the United States Pharmacopeia is 1-400 grain. Allow for pharmaceutic fallibility, and cut this in half—1-800 grain; the very rapid diffusibility of this alkaloid fits it notably for rapid repetition of the doses, so it may be repeated every ten minutes until effect. Don't worry—you'll get the effect.

I must here again call attention to the safety afforded in the use of the vascular relaxants by their quick diffusibility and rapid elimination. This relaxation of arterial tension permits them to be absorbed speedily, and the effects are manifested in so short a time that the rapid multiplication of doses does not permit of cumulation, but enables the attendant to judge readily when the desirable action is secured and the drug may be stopped or administered less frequently so as to sustain the effect. Even when an overdose may have been given, the elimination is so speedy that all one has to do is to sustain life by well-arranged roborant applications—heat, coffee, camphor; these rather than strychnine—and in a short time the peril has passed, as the poison passes out of the body. The objection to strychnine is that it increases the reaction of the bodily functions with any other drug that may be administered simultaneously with it.

One other reason may be cited for the occasional unexpectedly serious effects following the exhibition of aconite—influenza. I have witnessed symptoms of threatening collapse follow three granules of aconitine, given an hour apart, to an adult suffering from influenza. I have seen similar symptoms follow 1-30 grain of strychnine. Every practician could tell of such cases after one or two grains of acetanilid, or of some other remedy which in dose or nature was by no means expected to induce such depression. Such cases are apt to breed that superstitious dread of aconitine shown by so many. Whenever I find a physician speaking of its dangerous character or giving bromide of potassium in 2-grain doses, I feel sure he has had such an experience.

In those individuals who possess the underlying predisposition, autointoxication is by far the most prolific and most prevalent exciting cause of psychoses, disturbing, as it does, the delicate mental balance in such persons, thus precipitating attacks.—W. D. Partlow, Southern Medical Journal.

CANNABIS INDICA

About the most unsatisfactory drug in the materia medica is cannabis indica. Cannabis has a reputation of doing many things it doesn't do. To the Asiatic, it is supposed to afford visions of paradise; to us, it affords nothing in particular. A Hebrew friend is unkind enough to intimate that to the Westerner paradise stands in the relationship of an alleged sixth sense—something we shall never appreciate.

Cannabis defies the chemist. He extracts from it an alkaloid, and it fails to afford the therapeutics of the plant, even when administered in doses of twenty grains, while half a grain of a good extract gives results. Not one of the derivatives has replaced the extract. Cannabis has never commended itself to the Occidental in search of new vices, yet the insane asylums of Egypt are filled with the victims of the hemp habit.

Victor Robinson has just published a monograph on cannabis, which displays industry in compilation—he has found some data not embraced in any of the standard works. The diction is pure and graceful, as shown in all Victor's writings; and, as in all, he manages to put into this something of that intensity that characterizes this brilliant young spirit. Moreover, he does not stop with quoting, but goes on to make some experiments with cannabis the results of which are most interesting—all the more because they are utterly at variance with those which tradition leads one to expect. There's such a difference between men who set down what they think they ought to see, and those who really look with their own eyes.

It is an interesting little book.

Leading Articles

Evolution's Message to the Physician

A Few Words of Interpretation

By HENRY S. MUNRO, M. D., Omaha, Nebraska

> With such crude microscopes and test tubes and laboratory equipment as we possess, the conviction is still rapidly gaining strength that we know mighty little about our sphere. We recognize no horizon to our endeavors. We despair of no goal. Emancipated from superstition and bigotry, with the wings of imagination to bear us onward and upward, who dares place a limit upon the achievements of tomorrow?
>
> We've hardly started to think. We've barely learned to do. You can't stretch your imagination half as far as your own children will stretch their hands.
>
> HERBERT KAUFMAN.

THE recent International Conservation Congress, held at Indianapolis, October 4, 1912, unearthed some startling facts that throw a tremendous light upon the problem of the medical profession, showing our shortcomings in relation to those individuals whose lives have been entrusted to our care. These facts are incontrovertable; they are presented to our consideration by a man who is neither physician nor sanitarian; and they are such as should awaken us to the realization that detecting microbes and applying the appropriate remedies to combat them, and diagnosticating gross pathological lesions and then cutting out the local manifestation of the diseased individual is not sufficient to meet the demands of an enlightened civilization.

Mr. E. E. Rittenhouse, conservation commissioner for the Equitable Life Assurance Society of the United States, in a paper read before this Conservation Congress, said: "The life-saving movement is still in its infancy. It has been directed so far almost wholly against contagious diseases common to infancy and early adult life, while degenerative diseases of middle life and old age, to which comparatively little attention has been paid, are steadily increasing. The average length of human life has been increased by increasing the proportion of people living in the younger periods, while the average duration of life of those who pass into middle life and old age has been constantly shortened. The principal items of life waste are due to the hazards, habits, and conditions of life which civilization has introduced."

He further says: "A million and a half people in the United States are constantly suffering from preventable diseases. During the next ten years, over 6,000,000 lives will be needlessly destroyed, if present conditions continue."

There you have it put down in cold figures by a business man! For over thirteen years I have endeavored to awaken the profession from its long sleep to a consciousness of our duty as physicians, having pointed out the spirit of unrest and dissatisfaction existing among intelligent laymen all over the world, at our enthusiasm over studying pathology, with no effort to correct the abnormal habits of the individual, wherever and whatever they might be, as a means of arresting the conditions favoring the development of his special manifestation of disease.

We certainly *deserve* our "medicine" handed to us by a representative of a commercial enterprise—an institution organized for financial gain. Is it not a reflection upon our professional characters that a business institution, recognizing that sickness is a material liability and that health is a realizable commercial asset, is forced to hunt down and relentlessly make effort to exterminate a large proportion of preventable diseases, while we, the doctors, sit idly by, living like parasites on the life of the community? Is it not the limit when we are brought to face a situation, as Mr. Rittenhouse has made us see it, wherein we must be forced to a recognition of our failure to do our duty to our patients by modern industrialism as it pursues counterfeiters, forgers and other commercial criminals?

He tells us that our efforts have been directed so far almost wholly against contagious diseases common to infancy and early adult life. We know well enough that this is true. He further tells us that degenerative diseases of middle life and old age, to which comparatively little attention has been paid, are steadily increasing. We realize that this is also true.

What Are We Doing For Middle Age?

What have we been doing for diseases of middle life and old age—the degenerative diseases? The ideal "up-to-date" pathologist and diagnostician has, and he is still doing so, arrogantly gloated over his wisdom in his ability to make a diagnosis while he waited serenely for a postmortem to confirm his prognosis. If he could prove the correctness of his prognostications by the autopsy examination, he had scored a feather, in his own estimation and in that of a considerable portion of his unthinking colleagues; making no effort to get his unfortunate victim to conform to the physical, physiological, and psychological requirements of health, or to do as Mr. Rittenhouse suggests: "the individual should be educated to adopt the healthful habits of life."

Since evolution, biologically speaking, is the process by which any living organism has acquired its distinguishing morphological, physiological, and psychological characteristics, and since each of our patients is a living organism, we are forced to recognize that the cause of the disease-process—be it designated mental or physical, organic or functional, morphological or psychological—must be found in the environing conditions of life, which favor the development of the morbid pathology presenting itself in the symptomatology of the patient.

In other words, disease is a misadaptation to environment. The environing factors contributing to its development may be endogenous or exogenous. They may be bacteriological, occupational, dietetic, social or psychological. In every disease-process, the pathological condition presented can be found to express the peculiar reaction of a special type of individual to the conditions of his environment, true to the law of evolution in general.

The recognition of the pathology of any disease-process, be it mental or physical, is the first step to the understanding of our patient, but, except in incipient diseases of bacteriological origin, the pathological manifestation is effect, and not cause.

To name the disease and apply treatment to its most marked symptomatic manifestation, whether treated by medicine or surgery, without educating the individual so as to enable him to readapt himself to conditions whereby the morphological, physiological, and psychological elements which comprise the entire personality can achieve a condition of stability commensurate with the life of the normal, healthy, happy individual, is to fail to meet the demands. Until this re-education is done, our work is a pretense and a farce, whether so recognized by the individual patient or not.

At the present time many methods of "treatment" are in vogue, which are tolerated by an all too gullible public only because of their ignorance. The paper of Mr. Rittenhouse is a healthy indication that the discontent and dissatisfaction expressed by some of the laity, and the quiet acquiescence to existing methods by others, will not always be so easily satisfied. People are not fools—at least not all of them. Let us not be deceived. Let us face the facts as they are.

In all portions of the world, able physicians are emphasizing the importance of a broader scope for professional work.

"Scientific" Physicians and "Practical" Physicians

Dr. Grasset, of the Montpelier University, is quoted as saying that the classics and a broad training in literature and philosophy are considered essentials in the education of a physician; that he has no patience with those who differentiate scientific physicians from practical physicians; that there ought to be but one category, in which the physician is at once scientist and practitioner. He is further quoted as saying that formerly diagnosis was based on ascertaining the anatomic condition of diseased organs, in being able to localize a heart-sound or a pulmonic râle. Today it is far more complicated; above all, it is necessary to make a good clinical diagnosis, to take account of the functions of an organ. But, he continues, this is not sufficient to interpret obvious signs. It is necessary to collate a series of symptoms, to judge absolute and relative values, to classify and to coordinate them. Psychology, he says, is necessary in the education of the future physician not only for the study and treatment of mental and nervous diseases but also for all diseases; the mental condition of the patient must be considered, and the physician must have familiarized himself with the methods, processes of observation and general discipline of psychology. Humanity, according to him, has a fundamental need for good physicians, in the deepest sense of the word. A bad or indifferent physician may do mischief and is a serious menace to society.

Evolution the Foundation Stone

Scientific men, writes Prof. Victor C. Vaughan, build their idealism solidly up from the ground; they do not suspend it precariously from star-beams. The foundation stone of my philosophy, he continues, is the doctrine of evolution. We deal here, not with inscrutable forces which man cannot know, cannot modify, cannot study, but rather with potent factors that call for the best effort in behalf of the race. What higher incentive can there be, for example, to keep one's self clean morally and physically than the facts derived from the study of heredity? And when the added undeniable influence of environment in the modification and improvement of the species is taken into account, it is apparent that every effort to improve the conditions under which men live is based on motives quite as dignified and worth while as the musings of the philosopher who claims to cultivate the good and beautiful for its own sake.

Dr. Vaughan is further quoted as pointing out that our knowledge of the spread of infection is the strongest factor in the social movements of the day; that disease still takes a heavy toll; that ignorance and deep-seated prejudices are often found retarding progress in unexpected quarters. According to him, the philosophy of science concerns itself with this world and this life, and reaches every condition.

"To widen the domain of knowledge, be it ever so little, to abate disease, to lessen pain and suffering, to decrease the burden of poverty, to brighten and ennoble the lives of others, to harness the forces of nature and make them subservient to man's will and contributory to his happiness, to make man more considerate of his fellow, to appreciate and perform his duties—these are some of the things that science has done and is doing."

One of the world's most distinguished psychiatrists, Dr. Paul Bourget, believes firmly in the almost unlimited future of this science and is persuaded that in particular the literature of observation—in which he includes history, criticism, the novel and the drama—will be enriched by it. According to him, the effort of genius consists simply in discovering by intuition the laws that scientists discover by humble and more patient methods. He sees these laws in action, and on this condition alone is he an artist. The term psychiatry and the science which it designates did not exist, he says, when the great creators of souls conformed themselves to the laws that this science was one day to formulate.

The proprietor of a great medicine-house—a man who is doing much to help doctors in his line of work—says, "manhood comes before money; character before cases; and the biggest thing any doctor can do is to save life." Says he: "I do not minimize the value of the hypothetical; but the value of theory is for the research-worker. Our work is to cure. Are we doing everything we can to cure our patients?"

The Divinity of the Universe

Says the distinguished author and naturalist John Burroughs: "We are slow to wake up to a sense of the divinity that hedges us about. The great office of science has been to show us this universe as much more wonderful and divine than we have been wont to believe; shot through and through with celestial laws and forces; matter, indeed, but matter informed with spirit and intelligence; the creative energy inherent and active in the ground underfoot, not less than in the stars and nebulæ overhead."

Further, Burroughs believes that some principle or force that we do not see is active in the ground underfoot and in the forms of life about us and which is the final secret of the origin of man and of all other creatures; that this something is the evolutionary impulse, this innate aspiration of living matter to reach higher and still higher forms. The rise of man from the lower order, he says, taxes our powers of belief and our faith in the divinity that lurks underfoot far more than did the special-creation myth.

Can we not see something more in those of our patients who seek our help, that we can appreciate and make them appreciate and use, than the weakness and inertia of the human flesh when they have failed to conform to the conditions whereby health and vigor of mind and body could be maintained? Shall we let old farmer Burroughs see more in the earth beneath his feet than we can see in the individuality, or character, of our patient?

The message of evolution to the people of the world is being brought forth and utilized by business men, by educators, by manufacturers, by laborers of all kinds—just in proportion as their intelligence becomes capable of appropriating it; but for physicians it means simply this: It is the character of the individual, the psychic element of his personality, his intelligence, his reason which constitutes the *real self*. These constitute the character of the man himself, which uses as its instruments the emotions and the entire nervous system; and these are the means by which all interaction takes place between the individual and his environment. Each of these connecting links evolves together with the man, and we consequently have in every human being a vast system of evolution. Human action—structural, physiological, psychological—is explicable only by the operation of an eternal consciousness, which uses brain, nerves, muscles, viscera, and the rest as its organs and reproduces itself through them. "And I, if I be lifted up, will draw all men unto me." How true are these words as applied to every phase of present everyday practical life!

How I Shorten the Course of Labor

Practical Advice Upon a Practical Subject

By **WILLIAM RITTENHOUSE, M. D.,** Chicago, Illinois
Professor of Obstetrics, Bennett Medical College, Medical Department of Loyola University

EDITORIAL NOTE.—This is the third article in the interesting and practical series upon obstetrics being prepared for CLINICAL MEDICINE *by Professor Rittenhouse. In these articles the everyday problems that vex the general practitioner are being discussed in a helpful way. Other papers will follow in succeeding issues of the journal.*

TWENTY-FIVE years ago the man who would have seriously proposed to employ systematic measures to reduce the length of labor in any except the most extreme cases of dystocia would have been regarded as a radical, and would have been silenced by the epithet "meddlesome midwifery." Even today a considerable proportion of the profession look with suspicion upon the suggestion that a socalled normal case of labor should be interfered with simply because it is too prolonged. They are not quite ready to receive the idea that a woman who has been in labor forty-eight hours, and who has finally succeeded in delivering herself unaided, although exhausted almost unto death, has good grounds for accusing obstetrical science of inefficiency.

As a rule when a labor lasts more than ten or twelve hours there is something abnormal about it; and it does not seem unreasonable to demand that the doctor should possess enough skill and take enough interest to find out what that abnormal condition is. Indeed, I would go so far as to say that, when a woman has had good contractions for three hours without producing any apparent result in the way of dilatation, the attending physician should make a careful investigation of the case to discover if possible the cause of the want of progress. Similarly, if the case at any stage fails to make the progress that may reasonably be expected at that stage, the cause should be sought and remedied if possible. For example, if the head be long delayed at the inferior strait, it seems to me the height of folly to let the woman go on to exhaustion when a little assistance with the forceps will do in a few minutes what it would take her hours to accomplish unaided. Of course, when I say "the inferior strait" I mean the bony ring, and not the vulvar ring. Delay at the inferior bony ring is of no advantage to the mother, while a slow passage through the vulvar ring (the soft structures of the pelvic floor) is of the greatest advantage in avoiding laceration.

Causes of Delay

Among the causes that tend to prolong labor unduly we may mention the following:

Occipitoposterior position,
Short bag of waters,
Narrow brim,
Narrow outlet,
Large head,
Breech presentation,
Rigid os,
Feeble pains.

Occipitoposterior Position

Most of the causes named in the foregoing lengthen labor by causing slow dilatation of the os, thus making the first stage so long that the patient is exhausted before the stage of delivery arrives. Of all these causes the occipitoposterior position leads in point of frequency in the proportion of more than three to one. Most labors with the occiput posterior will, if unassisted, consume from thirty-six hours upward. If early recognized and corrected, they average little longer than do occipitoanterior cases.

In dealing with these cases, as long as they are making good progress I let them alone. If they do not (and this is usually the case), I aid dilatation until I can introduce my hand and rotate the occiput to the front, as described in this journal for January (p. 50). Because of the frequency of these cases they afford a fruitful field for study.

Short Bag of Waters

Hitherto but little attention has been given to the condition known as short bag of waters. Most of the textbooks do not mention it. And, yet, in an analysis of my cases since 1900, it stands second in frequency as a cause of prolonged labor. Previous to that date my records are not detailed enough to furnish evidence on the subject.

When the fetal sac protrudes through the os during a contraction, it makes an excellent dilator; but when it is too short to protrude, it has little dilating effect. The diagnosis is easily made by examining during a pain. If the finger can readily be passed between the os and the margin of the sac, the latter is not doing effective work as a dilator; for, if it did, it would be pressed so hard against the edge of the os that the finger could not be introduced without danger of rupturing the membranes.

When the sac is not doing its work of dilatation, it is best to rupture it and let the presenting part come down and act as the dilator. This usually is followed by decided improvement in the rate of progress.

Breech Presentation

In knee and footling cases, the progress usually is fairly good; in a true breech presentation, however, with the legs lying straight up in front of the body, the shape of the breech is such that it does not readily engage in the brim, and the first stage of labor is unduly prolonged. If progress is unsatisfactory, it is advisable to aid dilatation artificially until one can introduce a hand and bring down one or both feet, extending the legs. Then the matter should for a time be left to nature, so that the child's pelvis may have plenty of time in passing through the mother's pelvic canal to mold and crowd aside the soft structures, thus making more room for the easy delivery of the after-coming head.

The very-prolonged first stage so common in breech presentation is an infliction on the patient that is entirely unnecessary in most instances.

Rigid Os

The dilatability of the cervix varies very greatly, but, fortunately, a condition so unyielding as to require special or instrumental treatment is not very frequent. In the past fifteen years I have resorted to instrumental dilatation only three times, but I have used digital dilatation to some extent at some stage of the labor in at least fifty percent of my deliveries.

A frequent use of it is where, in a primipara, two or three hours of labor produces little or no dilatation. Here, if the os is once the size of a half-dollar, progress will go on satisfactorily; still, nature often will require ten hours to reach a dilatation of one inch, while two fingers will accomplish it in twenty minutes. Here I am prepared to hear a storm of protests and objections:

"It is meddlesome midwifery!"

"There is danger of infecting the patient."

"There is danger of lacerating the cervix."

"It is too painful for the patient."

"It is contrary to established custom."

To the last indictment I most heartily and cheerfully plead guilty! No one is more ready than I to learn from the wisdom of our ancestors; but I have never doubted that those same ancestors would be grieved to think that the world should regard their attainment as the limit of human progress.

In answer to the other objections I may say that infection will not occur when proper asepsis is insured.

Laceration will not occur, because there is not power enough in the abductor muscles of the fingers to produce laceration.

As to pain, most patients do not complain of it when they understand that it will save them hours of suffering; nevertheless, a few nervous ones bear pain so badly that the artificial dilatation is not practicable.

And the final answer to all the objections is, that twenty-odd years' practice of the method has failed to reveal the evils referred to; while, best of all, it has saved hundreds of women many hours of needless suffering.

Narrow Brim

When the head will not engage in the brim, either because it is too large or the brim too small, the labor will be extremely prolonged unless intelligent assistance is rendered early. Before the head can pass the brim it must be molded by the contractions crowding it against the brim for a considerable time. This molding will not even begin until rupture of the membranes lets the head down, permitting it to rest on the brim. For this reason much time will be saved by early artificial dilatation and rupture of the membranes, after which the affair may be left to nature for a time, in the hope that the head will be molded sufficiently to permit its descent into the pelvis. If this does not occur within a reasonable time the high application of the forceps becomes necessary. In extreme cases it may be necessary to consider podalic version, craniotomy, or cesarean section, according to circumstances. A slightly larger head can be delivered by podalic version with the forceps on the aftercoming head than can be delivered head first, because the head is a wedge, the chin being the small end.

Feeble Pains

Women who are broken down in health by much child-bearing, and occasionally others, have such feeble and ineffective pains that little or no progress is made. Under these circumstances it is especially important to render early assistance, because exhaustion comes soon with them, and is proportionately dangerous. It is these conditions that result in some of the worst postpartum hemorrhages encountered.

Uterine contractions may be stimulated by the administration of 10 grains of quinine, 1-60 or 1-30 of a grain of strychnine, or even ergot; but the latter should be given cautiously as long as the child still is in the womb.

Pituitrin is praised in some quarters, but it is probably too early to determine its exact value. I have not given it a trial.

Artificial dilatation of the os is one of the best uterine stimulants I know of. Of the drugs, quinine has given me the best results.

Conclusion

In conclusion, let me say that no one can more readily concede than I do myself that the remedies I have proposed for the difficulties discussed in this paper may be capable of improvement. I shall rejoice if better ones are found. But regarding the importance of the subject I think there can be no room for two opinions. Is it any wonder that the intelligent and cultivated modern woman shuns child-bearing, in view of the fearful and prolonged suffering, much of it avoidable; in view of the cruel lacerations and mutilations, many of them needless; or in view of the semi-invalidism from which obstetrics as now conducted, has failed to save so many of her sisters?

In surveying the marvelous progress made by the sister science of surgery in the last quarter of a century, it seems to me that the keynote of that progress has been *fearlessness.* If the obstetricians of the present and future will show that same fearlessness in revising the traditions of the past, and in appealing to observation and conservative experimentation, I can see no reason why obstetrics should continue to lag behind her more popular sister science.

Puerperal Eclampsia

A Discussion of the Problem of Its Therapy

By W. C. WOLVERTON, M. D., Badger, Iowa

ALTHOUGH we are not yet entirely clear as to the etiology of eclampsia, we do recognize the fact that it is the manifestation of a grave toxemia which evidently has its origin in a renal insufficiency; the latter being responsible for a high arterial pressure, while the renal insufficiency is due to an overproduction of toxins, suboxidation, and underelimination. Recognizing these truths, the logical treatment is the prevention or at least the limitation of the toxin-formation, and the elimination of toxins already circulating in the blood stream.

While eclampsia is a comparatively rare complication of pregnancy and labor, nevertheless it does occur on an average of once in about 500 pregnancies, according to Williams. And then when it does occur, it is with such alarming suddenness and the need for prompt and intelligent treatment is so urgent that it behooves every physician doing obstetrical work to be on the alert, to know just what to do and how to do it. It might also be in order to say that one should know what *not* to do, since the mortality, both of mothers and of fetuses, as well as the morbidity frequently are unnecessarily increased by a too hasty and too vigorous (not to say reckless) resort to forcible delivery.

The sudden removal of the fetus from the uterine cavity, be it remembered, will *not* cure the toxemia which is back of the eclamptic seizure; do not let that fact escape your attention. And *accouchement forcé*—which is French for saying tearing open the uterus forcibly and removing the unoffending fetus therefrom—may, and usually does, inflict great injury upon mother and child, while often causing the death of either or of both.

Impending Eclampsia Foretold by Increased Blood Pressure

The treatment of eclampsia properly is one of prophylaxis. As long as we had to depend solely upon uranalysis for our warnings of impending eclampsia, we were certain to receive some unpleasant surprises in the way of the advent of eclamptic seizures where we least expected them. With the perfecting of the practical, portable, and compact aneroid type of the sphygmomanometer, however, we have a true instrument of precision that infallibly shows at least six weeks before the appearance of albuminuria the presence of the underlying toxemia. To the correctness of this statement, a great number of the foremost obstetricians of the world unhesitatingly bear witness.

It was Mangiagalli, of Milan, Italy, who first pointed out the fact that a high blood pressure is the earliest and most constant sign of toxemia in pregnancy. The normal blood pressure in *non*pregnant women who show no signs of renal or cardiac lesions averages about 112 mm. of mercury. The normal arterial tension in *pregnant* women who show no evidences of toxemia is about 118 mm. This holds true for the first seven and one-half months of gestation; then the blood pressure gradually begins to rise, reaching 124 mm. about two weeks before term. In the presence of toxemia, the blood pressure is greatly increased. Mangiagalli found that the blood pressure in 39 women who had eclampsia, and in 18 who had no convulsions but had marked albuminuria, at the lowest was 142 mm. The highest pressure recorded in a toxemic woman *without convulsions* was 192 mm; the highest in an *eclamptic* was over 320 mm.

Hirst states that a blood pressure below 125 mm. may be disregarded; a pressure of 125 to 150 mm. needs careful watching and moderate eliminative treatment; while a pressure of over 150 mm. needs active eliminative treatment, and in all probability (especially if it shows a tendency to climb higher) will require the induction of premature labor.

We have seen, then, that through information obtained by the sphygmomanometer in its modern, perfected form, we have a convenient and accurate method of forestalling eclampsia. But how many men in the rank and file of the profession are making use of this exceedingly valuable diagnostic aid? Its use in the diagnosis of toxemia of pregnancy is only one of the many fields in which it has been found of value; and new uses are constantly being found for this wonderfully sensitive instrument. No physician is excusable for being without a compact, easily portable sphygmomanometer.

The Value of Frequent Urine Analyses

It is not too strong an assertion to say that, if a *thorough* uranalysis and a blood-pressure determination were made every two weeks during the last three months of gestation, in every woman who engages us to attend her in her approaching confinement, and if then intelligent treatment were directed at the conditions shown by these diagnostic aids, eclampsia would soon become a much rarer condition than it is at present.

And now a few words as to urine analyses. Most physicians feel that they have done their whole duty to the pregnant woman, who has put herself under their care, when they have taken the specific gravity of the urine and made some one particular test for albumin. Now, while it is true that a majority of eclamptics show such a high degree of albuminuria that the urine obtained by catheterization during a seizure will boil solid or nearly so, it is also true that there are many who show no albuminuria whatever, at least not until very shortly before the onset of the convulsions.

The most reliable index of renal eliminative function is the quantitative determination of the *total amount of urea excreted in the twenty-four hours*. And just here is the place for a word of caution. An estimation of urea is absolutely null and void and of no effect unless made from a twenty-four-hour specimen and unless we know how much urine was excreted during that twenty-four hours. And the quantitative determination of urea is an extremely simple matter, using the well-known Doremus apparatus and freshly prepared solution of sodium hypobromite.

One should know, too, the degree of acidity of the urine. This is accurately, easily and rapidly calculated by means of the graduated glass tube devised by Harrower. With this same appliance, the amount of the urinary ammonia is also quickly determined. (It is well, also, to keep an eye upon the amount of indican appearing in the urine.) Other tests, indicated in individual cases, will occur to the intelligent practitioner; but those already enumerated, if conscientiously carried out and the results properly interpreted, will give the medical adviser a correct idea of the metabolic activity going on in the maternal organism.

Ballantyne, of Edinburg, enumerates the following as prodromata of threatened eclampsia: (1) High arterial tension, as detected by the sphygmomanometer; (2) persistent decrease in the amount of urine voided, and in the amount of urea excreted, as estimated from a twenty-four-hour specimen; (3) albuminuria, especially if the albumin be associated with albumoses, peptones, and acetone; (4) diminution in the percentage of chlorides. Along with these signs, there may be: (5) Edema, especially of the face; (6) slight jaundice; (7) amblyopia; (8) severe headache.

When such signs and symptoms are detected during pregnancy, especially in a first gestation, and more particularly in one not associated with a preexistent nephritis, the diagnosis of an impending eclampsia may safely be made; and the medical treatment indicated ought to be inaugurated without delay.

Prophylaxis and Treatment of Eclampsia

Treatment for eclampsia naturally divides itself under the following classification: (1) prophylaxis; (2) treatment of toxemia occurring during gestation, but without convulsions (the preeclamptic state); (3) treatment of eclamptic seizures occurring before or during labor; (4) treatment of postpartum eclampsia.

Under the head of prophylaxis come the routine use of the sphygmomanometer, as also the making of thorough urine analyses at proper intervals throughout pregnancy; and the intelligent interpretation and application of the findings to the regulation of diet, and stimulation of elimination. These points have been covered fully in the earlier part of this paper and so need no further amplification here.

The Treatment of the Toxemia of Pregnancy (Pre-eclamptic State)

When the sphygmomanometer (and, in advanced cases, the urinary findings, also) shows that there exists a toxemic condition, dietetic and medicinal treatment is in order. The patient should tentatively be kept in bed.

Food should be limited to milk, this being not only a food but also a diuretic of considerable value. Williams says that at least 2 quarts of milk should be ingested during the twenty-four hours. To relieve the monotony of a milk diet, the patient may eat small quantities of lettuce salad, and of bread and butter. Considerable quantities of either plain or lithia water must be taken, or cream-of-tartar lemonade, using a dram of potassium bitartrate to a pint of water. Excessive drinking of fluids is contraindicated, however, in the presence of edema or anasarca.

Digitalis is contraindicated as a diuretic, because of its blood-pressure-raising effect; but sparteine sulphate possesses all the good qualities of digitalis, and none of its disadvantages. The dose of sparteine is 2 grains, in capsule, three to four times per day. Mild catharsis should be secured, to prevent fecal stasis and autotoxemia of intestinal origin. If this treatment does not cause a prompt return to normal conditions, give a daily purge, in the shape of magnesium sulphate. Also sweat-baths, to stimulate cutaneous eliminative function, are in order.

If, on the other hand, conditions do not improve under active treatment and the blood pressure remains high or continues steadily to rise, coma or eclampsia can probably be avoided only by the induction of premature labor, no matter what the period of pregnancy may be.

Some time ago, a great deal was said about the employment of thyroid extract in this condition; but it is now plain that this remedy accomplishes nothing except in cases where there is evidence of thyroid insufficiency.

Recently, in a preliminary communication published in *The Medical Record*, Geo. P. Shears, of New York, proposed the theory that toxemia of pregnancy, or, as he prefers to call it, "the preeclamptic state," is due to suboxidation; or at least that suboxidation is a prominent factor in its production.

Acting upon this theory, he has recently been treating his toxemic patients with oxygen, freely administered, either by inhalation or subcutaneously; this combined with the usual milk diet, catharsis, hydrotherapeusis, and so on. He states that the results have been highly satisfactory and surprisingly prompt; but that the number of patients thus treated is as yet too small to formulate conclusions from them. It will be interesting to note the results in a larger series of cases.

Treatment of Seizures Before the Onset of or During Labor

There is a great diversity of opinion as to the proper treatment of the eclamptic seizure, owing to our uncertainty as to the etiology of the underlying condition; but upon the efficacy of certain remedial measures nearly all authorities seem fairly well agreed, namely:

1. Chloroform is to be administered, during the convulsions, in sufficient amount to control them.
2. Theoretically, morphine is contraindicated in toxemic states, because of its tendency to check excretion; but the majority of obstetricians seem to favor its employment in eclampsia. Williams advises that it be given in dose of 1-4 grain—repeated, if necessary, until three doses are given. The addition of from 1-200 to 1-100 grain of pure hyoscine hydrobromide to each dose of morphine increases the hypnotic effect of the latter markedly.
3. Hot-packs, to stimulate diuresis and diaphoresis.
4. The administration, hypodermically, of sparteine sulphate, in 2-grain doses every two to three hours until free diuresis takes place, then as needed.
5. Oil of tiglium, 3 drops in a dram of olive oil, placed on the back of the patient's tongue, if she can swallow; or administered through the stomach-tube if she is unconscious.
6. A cork or a piece of soft wood should be placed between the woman's teeth, to prevent her biting her tongue during the convulsive attacks.
7. Have the patient in a semiprone position, with the head turned back and to one side, so that the saliva will flow out from the mouth instead of back into the air-passages.
8. Medicine should not be given by mouth while the patient is unconscious, inasmuch as aspiration-pneumonia may result.
9. Delivery must be effected *as soon as is consistent with the safety of the patient.* And it is well to remember that rigid asepsis is just as necessary here as elsewhere in obstetrical practice. As a rule spontaneous delivery takes place, as the fetus is dead and has become a foreign body in the uterine cavity.
10. Nitroglycerin should be given, to lower the blood pressure; but its action is transitory.
11. Veratrum viride is regarded by *almost all* authorities as peculiarly efficacious in eclampsia, although the rationale of its action is not clear. It is believed that its property of markedly lowering the blood pressure is responsible for the beneficial results attributed to it. It also causes diuresis, by relieving spasm of the renal vessels; and has a powerful sedative action on the motor tracts of the spinal cord, thus relieving the nervous excitation. From 5 to 20 minims of the tincture is to be administered, hypodermically, every hour, until the blood pressure falls below 160 mm. and the pulse is slowed to 80 or even 60 beats per minute. It is a notable fact that convulsions rarely occur where the pulse is kept below 60. In place of the veratrum viride tincture, the alkaloid veratrine may be given, in dose of 1 milligram, hypodermatically, and repeated every hour until the pulse-rate and blood pressure are satisfactorily influenced; after that, according to the urgency of the symptoms.
12. In case the foregoing measures fail of relief, venesection and the removal of 300 to 500 Cc. of blood, this to be replaced by an equal volume of sterile physiologic saline solution, is indicated.
13. High irrigation of the colon with warm salt solution is a rational procedure; and several authorities recommend gastric lavage, using salt solution to which has been added sodium carbonate, to overcome the acidosis often present. This use of sodium carbonate also applies to the enemata.
14. Pilocarpine is mentioned only to be condemned, for, while it makes the skin of the patient sweat, it makes the bronchial mucosa sweat also (to quote Sir Andrew Clarke); that is, it is prone to cause pulmonary edema, or else pneumonia may subsequently develop should the patient recover from the eclamptic condition.
15. Bladder distention is very common; so the patient must be catheterized at proper intervals.
16. Lastly, in our anxiety to save the mother, let us not forget that we are attending an obstetrical case, and that there is a baby.

Stroganoff, of St. Petersburg, recently reported a series of *over 400 cases* of eclampsia treated, with a maternal mortality of 6.6 percent, and a fetal mortality of 21.6 percent.

His method of treatment, briefly, is as follows: The maintenance of perfect quiet in a dark room; avoidance of all irritation to the renal region, such as hot-packs; supporting cutaneous activity by keeping the woman warm; stimulation of elimination by enemata of 150 to 250 Cc. of a warm physiologic saline solution; and keeping the patient constantly in a somnolent state by the use of morphine hypodermically and chloroform by inhalation. If the pulse-rate is from 112 to 120, Stroganoff gives digitalis or digalen. He bleeds only in the presence of pulmonary edema.

It would seem that, in the face of a high arterial tension, the use of digitalis is strongly contraindicated, and that sparteine is the indicated remedy, as the latter steadies the heart by its digitalis-like action, without raising the blood pressure; it is also a true diuretic, increasing the output both of urinary solids and water.

Mangiagalli states that since he began the use of veratrum viride the mortality among his eclamptic patients has fallen from 23 percent to 7 percent. He uses the best fluid extract, in dose of 5 to 10 minims, administered hypodermatically, and repeated as often as the blood pressure exceeds 160 mm., as determined by the sphygmomanometer; but if the pulse becomes rapid and small and arterial tension low, veratrum is contraindicated.

It is not considered that veratrum viride has any antagonistic action on the toxins of eclampsia; but the benefit seems to be entirely due to a lowering of the arterial pressure (besides its sedative action on the motor tracts of the cord and its diuretic effect), as high arterial pressure evidently is an important factor in causing death in *puerperal* eclampsia. In other words, the high blood pressure may be the cause of cerebral edema and exudation, and thus the cause of convulsions and coma.

Eclampsia occurring *post partum* calls for the same treatment as eclampsia in pregnancy or labor. *Puerperal* eclamptic convulsions are more prone to prove fatal than the other two varieties, so the treatment must be very prompt.

The Minor Peculiarities of Active-Principle Therapeutics

By J. M. FRENCH, M. D., Milford, Massachusetts

EDITORIAL NOTE.—In the January and February numbers of this journal we have published two of the addresses delivered by Dr. French before the students of the College of Physicians and Surgeons, of Boston, upon the topic of "Active-Principle Therapeutics." This is the third address of the series, which will be continued in the April issue of CLINICAL MEDICINE.

THE difference between a living language and a dead one is, that the one is always changing, growing, developing, adding, subtracting, dividing; while the other is finished, fixed, unchanging, mathematically complete.

The system of active-principle therapeutics is like a living language. It is not only alive, but it is still in the process of making, growing, undergoing development. Hence it is not subject to any fixed and unchanging laws. Even the principles which I stated to you last week as fundamental might be worded quite differently by another, and may be changed by common usage in another decade. And so it is that, when we come to consider the minor peculiarities of the system, the best I can do is to state the case as it seems to me. My neighbor might with as good reason state it differently.

But as I have been a student and practitioner of active-principle therapeutics for twenty years, I shall exercise my right as an oldtimer to state its peculiarities as they seem to me, and leave it to someone else to make such changes in phraseology as he may desire or as future developments of the methods of practice may warrant. No one can speak with absolute authority in the matter.

Use Single Remedies and Simple Combinations

1. The first peculiarity to which I shall call your attention is *the predominant use of single remedies and of simple combinations.* And even this is not entirely a peculiarity of this system, as it is the common practice of the Homeopathists and Eclectics, and the trend of recent usage in the regular school is

decidedly in the same direction, and away from the shotgun prescriptions and countless combinations, secret preparations, and proprietary remedies in such favor a few decades ago.

Only by using a single remedy at a time is it possible to determine the action of that drug with any degree of accuracy. When you come to make the practical acquaintance of the drugs you use daily (and you must do this if you hope to be good therapeutists), you will find that it is a work requiring infinite pains and patience and manifold repetitions, at the best, to determine the action of any given simple drug. And when you come to combine with this one drug one or more other drugs of different action, the difficulties are increased in a geometric ratio.

When, however, the action of each individual remedial agent has been singly and definitely determined, it is then possible to build up with care a few standard combinations the components of which, while modifying, yet assist each other in their action. Also, on occasion, extemporaneous combinations may be made to meet the changing conditions under certain conditions; but beyond this, the majority of physicians will find it advisable not to venture.

I have known but one practitioner whom I felt that I could trust to write a complex prescription, with full confidence that he would combine the various ingredients so as properly to adapt the resulting compound to the conditions in question. This man was a master of his art and could see the end from the very beginning. But for the most of us the single remedy is capable of doing better work than any complex prescription.

Definite Indications for Use

2. *Predicating definite indications for the use of remedies* constitutes the second peculiarity of our practice. While it cannot be claimed that this feature is confined to the user of active principles, it surely is emphasized by him in his practice. He gives his remedies, *not for diseases* as such, but for the definite conditions which occur in the course of disease. When it is once determined what conditions of disease may be met by any remedy, then this remedy can be relied upon as of value wherever that condition is found. The skill of a physician is best shown in determining the exact condition which is met by any drug. As an illustration of this principle, I have been closely studying for ten years a little-known drug, i. e., verbena hastata, in the endeavor to determine its precise indications in cases of epilepsy. That is, I have tried to find out what class of cases and what characteristic symptoms were benefited by this drug, and which ones were not helped or might even be made worse. In this ten-years' time I have succeeded in developing five somewhat definite indications —one for every two years!

The Granule the Preferred Form of Medication

3. *The soluble granule is chosen by us as the preferable form of medication in most cases.* Competent pharmacists declare that the soluble alkaloidal granule is the highest development of the pharmaceutical art. While I am not in any way capable of describing the method of their manufacture, I do know that the perfected result has many virtues. Small in size, always readily soluble in hot water, capable of retaining its full remedial virtues for an indefinite period, it may be given either in granule form followed by a drink of water or in aqueous solution, as may be preferred. It thus combines the virtues of liquids and solids.

Clean Out and Keep Clean

4. *The dogma of "clean out, clean up, and keep clean,"* as taught by Abbott and Waugh and practiced by their followers in America, is coming more and more to be accepted as therapeutic gospel. It is based upon a recognition of the importance of autointoxication as a cause of disease, and of absorption from the intestinal canal as a prime cause of autointoxication.

Treatment begins with elimination from the intestinal tract; calomel and podophyllin, in small doses, and the laxative salines, being the favorite agents for this purpose. These are followed by or associated with the use of intestinal antiseptics. The endeavor is to produce, with these two classes of measures, not indeed complete intestinal asepsis, but that which is at least partial, and it is very effective therapeutically in most cases. The agents most commonly used as intestinal antiseptics are the sulphocarbolates of calcium, sodium, and zinc, either singly or in combination. The results of the use of these intestinal antiseptics in the treatment of typhoid fever and allied diseases is certainly very satisfactory.

There has been much discussion concerning the possibility of securing an aseptic condition of the intestinal canal. The active-principle therapeutist believes that, while it is admittedly impossible to secure and maintain absolute asepsis, yet the comparative degree which is attained makes it vastly easier for the defensive forces of the system to overcome the remaining millions of foes than it would be if their number were many times larger, as a result of a continued bathing of the intestinal canal in fecal poisons.

Seek Systemic Asepsis

5. *The importance of systemic asepsis and antisepsis* also is maintained as a companion doctrine to that of intestinal antisepsis. Of the numerous drugs which are used for this purpose, perhaps the most important are calcium sulphide and echinacea. It is even claimed that many of the contagious diseases may be prevented by saturating the system of the exposed person with calcium sulphide. I myself have repeatedly proved the power of this drug to prevent scarlet-fever, and have come to consider it a satisfactory substitute for quarantine in many cases. I will give you one illustration as typical of the whole.

A woman of thirty-five was taken down with scarlet-fever, which ran a typical and moderately severe course. During her illness, the house was strictly quarantined by the board of health, three persons besides the sick woman being confined therein during the whole time. These were her husband, her little daughter of some eight or ten years, and the husband's sister. None of them had ever had the disease, and all were confined in the house and went in and out of the sickroom with perfect freedom from first to last.

From the onset of the disease, I saturated them all with calcium sulphide, giving one grain four times a day to the child, and six to eight times a day to each of the adults. The smell of sulphureted hydrogen was obvious in the breath of each one, and this is essential to the proper result. This course was continued until the patient recovered and the quarantine was removed.

Not one of the exposed persons contracted the disease. It may not be considered strange that the adults escaped, but the child would certainly have been expected to contract the contagion. I do not claim that this case, or any one case, proves anything absolutely, but I certainly feel that I have had enough such cases to justify me in relying upon calcium sulphide as a satisfactory systemic antiseptic and as a means of preventing contagious disease, very often at least.

Vasomotor Equilibrium

6. *The importance of the vasomotor system* in those congestions with which almost all acute diseases begin is emphasized in this system of medication, and has been especially taught by Dr. Waugh. The latter makes the following assertion: "Circulatory disturbances herald the beginning of every acute attack and form an essential part of the phenomena presenting themselves throughout its course. Acute inflammatory attacks begin with a disturbance of the circulatory equilibrium. The affected part fills up with blood, which distends the capillaries, whose walls, relaxing under the increased pressure, afford an example of relative vasomotor paresis, being abnormally weak in comparison with the pressure to which they are subjected. But as there is no reason to suppose that the actual quantity of blood in the body has been increased, this overplus of blood in the distended capillary area indicates that there is too little blood in some other part of the vascular system. In other words, the vasomotor paresis in the hyperemic area is exactly compensated by a vasomotor spasm in some other vascular area."

It is for this reason that the fever remedies which are used by the active-principle therapeutist are selected; i. e., because they act on the vasomotor nervous system. Of this we shall learn more when we come to take up the subject of the treatment of fevers.

Selective Function of the Cell

7. *The selective function of the cells*, by which they are enabled to choose from the blood those elements which they have need of and appropriate them for the supply of their wants, while at the same time they reject all other elements and send them along to be used by such other cells as may have need of them, is another of the doctrines which guide the user of active principles in the intelligent choice of his remedies.

Stated a little more at length, the theory may be illustrated as follows: In the general blood stream, as it comes pouring out of the left side of the heart and goes pulsing through the arteries to every part of the system, there is to be found every kind of matter that goes to make up the different tissues and structures of the body. There is oxygen to purify the blood and revivify the tissues, phosphorus for the brain and nerve-cells, calcium for the bones, nitrogen for the muscles, and the proper materials for all the different kinds of cells, serous, mucous, muscular, glandular—in short, the things which are needed for every part of the body.

Nor can the material which is intended for the nutrition of one part be made use of by any other part. Each cell claims for its own and takes unto itself that kind of material, and only that, which can be elaborated in its own factory and made up into the substances which it needs and uses in its daily life and work. Unto each part its own, and every part unto its own kind, is the law of life. So all through the different parts of the body this one fluid, the blood, goes coursing on its way, while at every station there are thrown off from the blood and taken up by the cells those particles of matter that are needed at this particular station, and only these. There is a selective affinity of each part for its own material. The hair-cells pick out with unfailing accuracy those substances which go to the making up of hair. The liver chooses only those materials which can be changed into sugar and bile, and the other liver materials and liver products.

Again, the quantity which is normally appropriated by any cell is the amount that is needed to restore and preserve the proper physiological equilibrium, or proper balance, of the functions. As the processes of waste are always going on, so the repair of the tissues must go on apace, and these two are normally equal, no more being taken up by the cells than is needed to carry on the natural functions of the part, or than can or carried off by the organs of excretion.

To be sure, just as in nature everywhere we find a normal action and an abnormal one, so here there is such a thing as loading down the circulation with matter which is not needed by any of the tissues, yet which cannot be gotten rid of except by the regular physiological processes of nutrition, and hence it has to be taken up by the cells; and there is such a thing as overburdening the system with the best of materials, so that the cells will take up more than they need, more than they can properly dispose of. In either case, the result is that the functions dependent on these cells are rendered abnormal in their action, or are depressed in their character, or are unduly stimulated. We then see symptoms of innutrition, of overnutrition, or of poisoning.

This scheme of adaptation is only in the line with what is done by reasoning creatures in meeting material needs every day, for there are none of us who live up to our light and knowledge all the time and under all circumstances. We all of us eat too much at times, and of improper food at that. If we did not, there would be few cases of colic, or typhoid fever, or gallstones, or rheumatism for us to treat. Nature carries on her operations automatically to a certain extent, it is true, but she makes false steps at times, and needs an intelligent mind to direct her in her work.

To carry this theory a little further, the principle which we have stated holds true not only for food and dietetic materials, but as to medicinal and drug substances. When active remedies are given in small amounts and repeated at the proper intervals only, we find that there is produced a definite effect (and if the drug administered was the indicated one in this condition, then it is a remedial effect) on some definite organ, tissue or structure; while the other organs, tissues, and structures are apparently uninfluenced thereby.

To illustrate: Hydrastis has an especial action on the mucous membranes; bryonia influences especially the serous membranes; jaborandi acts primarily on the sweat-glands and in a less degree on other excretory glands. Strychnine is the great nerve tonic, while iron builds up the blood; but, if too much strychnine or any other active substance is administered, it is not in the power of nature properly to dispose of the additional quantity, and harm results to the individual. The same is true of all remedial substances, in greater or less degree, in proportion to their activity and their power to accomplish good or ill.

In reliance upon this principle of nature, the user of the active principles does not hesitate to give aconitine and strychnine at the same time in a case of vasomotor congestion, knowing that the spasm will be relaxed by the action of the aconitine and the paresis be toned up by the strychnine, each without interfering with the action of the other, in accordance with the principle of the selective function of the cells. But, if the dose be increased beyond the ordinary medicinal one, then the cells may be overwhelmed and poisoned by the additional quantity.

Definite, Positive Results Are Sought

8. *Active-principle therapeutics aims to secure definite, uniform, and positive results from its use of medicaments*, and in order to do so two things are requisite. First, its remedies must be absolutely reliable; and this it aims to secure by the use of the active principles prepared in the granule form by reliable manufacturers. Secondly (and here I am only repeating, to emphasize what I have already said more than once), the man who

uses these drugs must have a definite knowledge of the action of his remedies, of the symptoms which indicate both their remedial and its physiological action, and, also, must know the natural history of the diseased condition which he treats, in order that he may understand what would happen if the case were left to nature, and what he desires to produce by medicinal treatment.

The best way that I know of for a young doctor to secure this knowledge is for him to sit the livelong night by the side of his patient, watching the symptoms with his own eyes, administering the remedies with his own hands, and storing up the resulting lessons in his own brain-cells. That is the way to become a good therapeutist. Especially it is the way to learn the successful use of the active principles in accordance with the methods which I am advocating.

Active-Principle Therapy Not Sectarian

9. *Active-principle medication, as a system of treatment, is not the basis for a new sect, 'ism, 'pathy or any separatist school of medicine.* Rather it seeks to obtain adherents among practitioners of every school, and without regard to any of these matters. It fights for its laurels on the firing-line of disease and proves its superiority by actual trial a the bedside. In order to enter its ranks, one does not need to renounce any old theories or take upon himself any new vows. It has no forms of initiation, no badge, no regalia. You read its literature, and, if its claims attract you, you send for a case of the granules and try them out in your practice.

A friend of mine writes me that he carried his alkaloidal case around with him for a year or two before he dared to try its contents. Then he was called in consultation by a brother physician, to see a boy of eight or ten years, sick with pneumonia. The case apparently was an exact reproduction of that of an older brother, who had been sick then for some ten days, and later ran a long course of double pneumonia, with, still later, empyena and various other serious complications, but who finally recovered. The boy that he saw had been sick thirty-six hours, had a temperature of 105° F., pulse 140, respiration 50, with the middle and lower lobes of the right lung solid, with all the classical symptoms of pneumonia, including delirium, restlessness, and expectoration. "If I know pneumonia," he adds; and, as he was a Harvard graduate, he must have known pneumonia! The attending physician was at his wits' end and willing to try anything.

"Then," my friend says, "I gave the little fellow a defervescent granule, containing aconitine, veratrine and strychnine, every fifteen minutes for two hours, then one every half hour for four hours, then one every hour until the fever dropped, telling a competent nurse to watch results and act accordingly. The result was marvelous, however the skeptics may explain it, for the symptoms began to abate at once, and in forty-eight hours the temperature, pulse and respiration were normal, cough gone, mind clear, and patient quiet, except as he was 'hollerin'' like a Tammany chief for something to eat. He made a quick and uneventful recovery."

And this is the way that a good many doctors begin the new way of treatment.

10. *Although the best title for our method is that of "active-principle therapeutics," yet the materia medica of the practitioner of this method by no means is confined to the active principles.* Instead, he uses any and every means and method which experience and experiment have shown to advance the end in view—which is, the welfare of the patient. He is not a sectarian, but a physician, who seeks out of the vast storehouse of nature those things, new and old, which will produce results.

11. *Its basic therapeutic maxim is, "The smallest possible quantity of the best obtainable means to produce a desired therapeutic result."* This is the phrasing of Abbott, and it covers the use of remedies of any and all kinds.

Just "Common Sense"

12. At the risk of having you reply to me that I am begging the question, I am going to claim boldly another peculiarity of this method and its practitioners, which I shall call *common sense in the use of remedies.* To illustrate what I mean, I will repeat a little story that used to be told by an eminent professor in the medical school from which I was graduated.

The story relates to one of the early graduates of the school, and is intended to show the need of common sense and good judgment in the practice of medicine. As the story was told long before the days of the active principles, I suppose I must admit that it does not apply exclusively to their users today. Indeed, I am quite sure that the students and graduates of this school, whether or not they may accept all the principles which I have advocated, will agree with me as to the importance of this qualification.

As a student, the young man in question was a prodigy of information and never forgot what he had once been taught. On examination day, he was able to answer every question of the professors, to quote the opinion of any author whom he had studied, tell on what page of the book this opinion might be found, and repeat the very words in which it was expressed. As a graduate, he carried off the highest honors of the school, and as a practitioner he was expected to reflect honor upon his alma mater. After receiving his diploma, the newly fledged M. D. spent a few weeks with his former preceptor in medicine, visiting patients with him, as was the custom in those days, and observing carefully the treatment and its results.

Among the patients treated during this time was one who had typhoid fever. The patient was a robust and full-blooded man, in whom the fever ran high, as was usual in such cases—a typical sthenic case, we should call it. The old doctor treated him according to the fashion of the times, with an emetic, a purge, and the lancet; then another emetic, a cathartic, and more bleeding; and finally winding up the antiphlogistic treatment with a dose of calomel and jalap, ten grains of each—"the double ten," as it was called. The patient, being of a rugged constitution and well calculated to bear depleting measures, survived the heroic treatment, and soon recovered his usual health.

Soon after this the young medico set up for himself in the practice of his profession. His field of labor was at a considerable distance from his former home, and more than a year had passed before he met his old preceptor again; and when he did, he seized the first opportunity—as you will do under similar circumstances—to talk of the remarkable cases with which he had been confronted during the year, and the wonderful cures he had performed. Finally he had made an end of these, and—"Now, doctor," the young man continued, "there is one thing I don't understand, and I wish you would explain it."

"Very well," said the old man, "state the case."

"Well, doctor," the young physician reresponded, "you remember that typhoid-fever patient whom you treated last summer when I was riding with you after I was graduated?"

"I do," assented the other.

"You remember how you treated him?"

"Yes."

"And he got well!"

"Certainly."

"Well, doctor, I had a case just like that one; I treated the patient exactly as you did; and the man died!"

"Is it possible? Died, did he?"

"Yes, he died; and I don't understand it. I wish you would tell me what the reason was."

"What kind of a man was he, anyway?"

"Oh, he was a little fellow, all weasened and dried up and thin."

"You are sure he had typhoid fever?"

"Oh, yes, all the symptoms."

"And you treated him just as I did my patient?"

"Exactly."

"And he died?"

"Yes, and I don't understand it."

"Did you give him an emetic?"

"I did."

"And bleed him?"

"Two or three times."

"And purged him?"

"Repeatedly."

"And wound up with calomel and jalap, ten and ten?"

"Yes, sir."

"And he died?"

"Yes. And, now, what was the trouble?"

The old man leaned back in his chair, drew a long breath, and seemed lost in thought for a few minutes. Finally he spoke.

"H'm! doctor, do you remember the old sorrel mare I used to drive?"

He did.

"Well, one morning in April, five or six years ago, I had to go out on the west road, through the woods and over the hills, some six or eight miles, to see a sick man. It was a warm morning, the frost was just coming out of the ground, and the road in some places was quite springy. Finally we came to a clayey piece of ground, and the old mare got stuck in the clay. The more she tried to get out, the deeper she got in, until finally she was in almost up to her belly. I tried the best I could to help her out, but the more I tried, the more I *couldn't* succeed. At last I called to some men who were plowing in the field not far away, and they came over and helped me. We got some rails from off the fence near by, put them under her body, and so pried and lifted and pulled away until finally we got her out."

Pausing a moment to take breath, the old doctor went on again:

"I didn't have to go over that road again for six months, and that was late in the summer, and the roads were dry and hard. But the moment we came to the place in the road where she got in the spring before, the old mare stopped short and obstinately refused to budge an inch. I touched her up smartly with the whip, but she would not go on that way.

I got out and tried to lead her over, but even that did no good. So finally I had to back her out of the road into the ditch, turn out into the fields, and let her go away out around the place where the clay-pit used to be, though now it was as firm and hard as any piece of ground on the road."

Here the old doctor ceased. His story was told, but young Esculap did not see the point.

"But, doctor, what has all that to do with my typhoid-fever case?"

"Young man, you were a good deal like that old mare. She had a most excellent memory, but d—d poor judgment. Circumstances alter cases, young man; circumstances alter cases."

The Distribution of Stomoxys Calcitrans

A Note on Its Possible Etiologic Relationship to Acute Poliomyelitis

By PHILIP A. E. SHEPPARD, M. D., Boston, Massachusetts

EDITORIAL NOTE.—In view of the announcement made by Rosenau, of Harvard, at the recent meeting of the Congress of Hygiene and Demography, held in Washington, D. C., that he had been able to demonstrate the transmission of acute poliomyelitis (infantile paralysis) through the bite of the stomoxys, or biting stable-fly, this report is of very great interest. Dr. Sheppard, its author, for four years was special investigator of the Massachusetts State Board of Health for this disease.

BRUES and Sheppard presented the results of certain epidemiological observations in Massachusetts in a report submitted to the State Board of Health on September 25, 1911. An abstract of this report was published in the *Bulletin* of the Board of December, 1911,[1] the full text of which was later published in the August, 1912, issue of *The Journal of Economic Entomology*,[2] entitled "The possible etiological relation of certain biting insects to the spread of infantile paralysis." Our observations were made in seventeen cities and towns in the state of Massachusetts, during the months of July, August, and September, 1911.

Brues and Sheppard (ll. cit.) in September, 1911, observed that stomoxys calcitrans L. (the ordinary biting stable-fly) was the only biting insect, other than mosquitoes, to be found constantly in the immediate vicinity of the patients, and from the then known facts suggested that stomoxys calcitrans L. may be responsible for the spread of acute epidemic poliomyelitis. No facts which disprove this hypothesis of September, 1911, have as yet been adduced.

In the same work it was stated further that the fact cannot be ignored that the greatest seasonal expression of acute epidemic poliomyelitis agrees strikingly with the greatest growth of stomoxys; and that it was impossible upon *a priori* grounds to rule out stomoxys, and a final decision must await the results of experiments then suggested, in which an attempt was to be made to transmit the disease among monkeys by means of stomoxys. The experimental work then suggested has been in part carried out by Dr. Rosenau and Dr. Brues, and communicated to the Fifteenth International Congress of Hygiene and Demography held in Washington September 23 to 28, 1912. Anderson and Frost,[3] by their series of experiments, have confirmed this work, and have carried the infection through a second series of monkeys. Meantime it has seemed well to report an omission in the first article, by studying the distribution of stomoxys calcitrans L. in the world at large.

My plan at first was to canvass, by writing, every city and town in America and Europe where infantile paralysis had been reported in epidemics, in order to ascertain whether stomoxys calcitrans L. had been observed in connection with cases reported; but a more ready and as accurate a method has been followed, viz., that of reference to reliable entomological literature.

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[1] Report to Massachusetts Board of Health, Sept. 25, 1911, briefly abstracted in the monthly *Bulletin* of the Board, for December, 1911, pp. 338–340 (1912).

[2] *Journal of Economic Entomology*, August, 1912, Vol. 5, No. 11. Ready for publication October 9, 1912.

[3] Anderson and Frost, "Public Health Reports," October 25, 1912.

By this means it is believed an apparent missing link in the chain of evidence will be furnished that might materially aid in drawing the cordon more closely around stomoxys calcitrans as the transmitter of the "virus" of infantile paralysis.

The points to be established *a priori* are:

1. Is the stable-fly (stomoxys calcitrans) present in every locality where acute epidemic poliomyelitis occurs, and at the same season of the year?
2. Can it be shown that people sick with the disease give a history of insect bites?

To the first question we will answer in the affirmative from the evidence adduced below.

Stomoxys

The species calcitrans (Linné) was first described in Syst. Nat., 10th edition (1758), as Conops calcitrans. Linné, in a former writing ("The Fauna of Sweden," 1746) refers to this species, (No. 1042), under asilus, as "Suecis *sting fluga*" [stinging fly of Sweden]. The type locality for the species therefore is Sweden.

The fly which carries acute anterior poliomyelitis (stomoxys calcitrans), greatly enlarged

Further it would appear from Austen's[4] writings that stomoxys calcitrans L. is "a common and well-known pest of human beings and domestic animals in Europe and Africa," and that "outside Europe and Africa, *where it occurs everywhere from Lapland southwards*, stomoxys calcitrans L. exists throughout the greater part of the world." Aldrich[5] states that this fly is "very common throughout the inhabited parts of North America." Howard[6] goes further and says that the biting house-fly (stomoxys calcitrans) "has almost as wide a geographic distribution as the true house-fly. It was probably originally a European species and has spread by the help of commerce to many parts of the world."

To the second question I will say that, in the vast majority of cases which I have investigated in Massachusetts since 1909, a history of bites from flies of other insects was obtained, and that I have personally observed the fly (stomoxys) in the immediate neighborhood of the cases.

The accompanying chart is presented as a type-curve both of the incidence of acute epidemic poliomyelitis in one community and the seasonal occurrence of stomoxys calcitrans observed in the same community.

It is interesting to note that the great European epidemic of poliomyelitis occurring in Norway and Sweden reported by Wickmann in 1905, was followed by the American epidemics, of which the first occurred in New York in 1907.

During the period of 1902 to 1907, it can be shown that Scandinavian emigration was greatly increased, and it is not unreasonable to suppose that "virus-carriers" were imported With the probable transmitting agent (stomoxys) present in this country at this time, the disease probably was spread in and about New York by its means. So, too, the earlier Massachusetts epidemics may be accounted for in a similar way.

The disease once gaining a foot-hold in this country and in view of the universal distribution of stomoxys calcitrans, the later American epidemics can be explained on the basis of the Brues-Sheppard hypothesis of 1911.

Conclusions

1. The Brues-Sheppard hypothesis of September, 1911, states that it is impossible upon *a priori* grounds to rule out stomoxys as a carrier of acute epidemic poliomyelitis, and a final decision must await the result of experiments in which an attempt is being made to transmit the disease among monkeys by means of stomoxys.
2. This hypothesis of 1911 has been verified experimentally by the infection transmitted through the agency of stomoxys calcitrans from monkey to monkey.
3. Stomoxys calcitrans (Linné) is universally present in Europe and in America wherever the disease poliomyelitis is found in epidemics.
4. The type-locality for stomoxys is Sweden, where it occurs abundantly and in which country the great epidemic of poliomyelitis was reported by Wickmann in 1905.

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[4] Austen, E. E., "African Blood-sucking Flies." 1909, pp. 142 to 143.

[5] Aldrich, J. M., "A Catalogue of North American Diptera," p. 530. (Washington pub. Smithsonian Inst., 1905.)

[6] Howard, L. O., "The House-fly as a Disease-carrier." 1911

5. The American epidemics of 1907 and later, up to date, may in the first place have been introduced into this country, and have spread from east to west by Scandinavian emigration and stomoxys.

6. No facts have as yet been adduced which disprove the accuracy of the Brues-Sheppard hypothesis of September, 1911.

It gives me pleasure to express my thanks to Mr. C. W. Johnson, curator of the Boston Society of Natural History, who has freely helped me in looking up the literature. For the photograph of stomoxys I am indebted to Mr. Brues of the Bursey Institute.

Cancer a Motile Germ*

The Meaning of This Fact to the Clinician

By G. BETTON MASSEY, M. D., Philadelphia, Pennsylvania

IT is not my purpose, in this brief paper, to discuss the claims of certain research-workers who think they have identified the germ of cancer, nor the denials of the correctness of these claims by others. This question is not in a condition for discussion by others than these special experimenters, and it is best for clinicians to stand aside until some agreement has been reached. Nevertheless I have a strong faith that conclusive facts will shortly be presented to us that will make the etiology of the many varieties of cancer as clear as that of malaria and syphilis, both of which have been cleared up so recently.

In the meantime, no harm can result from an assumption on our part, judging from certain clinical facts, that these affections (i. e., the several forms of cancer and sarcoma) are of a parasitic nature, and from so directing remedial efforts that we may anticipate in part the practical benefits flowing from the discovery when made. An opposite course—a failure to take the operative precautions dictated by the evidently parasitic and autoinoculable nature of these growths—is, I believe, costing us a large number of operative failures that otherwise might have been successes.

Character of the Cancer-Cell

The most important fact to be noted is, that the whole clinical history of a malignant growth indicates that its living components are motile, omnivorous entities, the degree of motility and voracity bearing direct relations to the degree of virulence.

Analyzing the facts more closely, it is evident that the degree of malignancy of a type of cancer or of an individual growth is but another term for the degree of the motility and voracity of the cancer-cell present in the growth. For what do microscopists regard as the essential condition present in a histologic section determining malignancy and by which a diagnosis of cancer is arrived at and its degree of virulence measured?

This essential finding, without which no diagnosis of malignancy is made, is merely more or less erosion of normal histologic elements and their replacement by migrated cell groups other than leukocytes. In other words, cancer is diagnosed at present, not by finding and recognizing socalled cancer-cells, as was formerly claimed, but by the evidences of a migration and conflict between the cells of the new growth and the normal cells of the part. The normal cells, even of the hardest osseous tissues, are destroyed, and in their place are found the foreign cells in riotous abundance.

The microscopic slide, it should be remembered, gives us a view of the conditions present at the moment of death. Sections at the edge of a malignant growth doubtless show us a picture of a battle-field taken at a single moment of the progress of the conflict. When the moving-picture machine can be successfully applied to this subject we shall know more of it.

The microscopic slide, then, is our strongest proof that the *materies morbi* of cancer is motile, for it is impossible that we can have erosion without motility of the eroding agent.

But, I should not say that the microscopic evidence is the strongest, though doubtless it is the most convincing. For what is the appearance to the unaided eye of the average cancer but one orgy of erosion, the growth devouring neighboring structures so clearly and distinctly that the facts are evident to the mere layman?

By some sort of mental inertia we have allowed the true significance of this erosion to escape us.

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*Read before the West Virginia Medical Association, at Webster Springs, July 11, 1912.

If the picture of a neglected carcinoma does not convince you that we have a moving, boring entity to deal with, consider certain facts of autoinoculability.

Autoinoculability

It is true that the inoculability of cancer from individual to individual, even of the same species, is difficult, although it has been frequently accomplished of late, in the lower animals, the difficulty doubtless being explained by the fact that the experimenters have been trained mainly in the handling of vegetable organisms, while the cancer organisms most likely are protozoal. Still, when the question is one of autoinoculability, the ease with which this occurs in a susceptible individual is evident in nearly every case.

I have seen many secondary growths in an epithelioma of the face, implanted by the fingernails of a careless patient. There is evidence that a carcinoma has been transferred by the knife of the operator from such a growth in the ovary to the clean cut in the abdominal wall, as mentioned by Cullen and others. There are numerous evidences of autoinoculation in the local recurrences so common after imperfectly performed knife operations.

The phenomena of metastases, or secondary growths in the individual, are, in reality, instances of spontaneous autoinoculation. The mode of formation of these socalled metastases, which rather should be called colonies, is well known to be by the protrusion of a graft or of a single infected cell into the lumen of a vein or lymph-vessel, which later is broken loose from its attachment and floated onward through the vascular system until mechanically arrested, where it proliferates as a daughter tumor.

Practical Conclusions Arrived At

A realization of the phenomena of automobility of the living thing in a cancer which gives distinctive characteristics to these growths should justify us in deducing following practical conclusions:

1. We should be more optimistic in our views about early treatment, and no longer encourage that vicious circle, ever leading to worse results, that flows from a policy of early inaction and late operation. Who would think of waiting for a whole city to be infected with smallpox to prove that the infected immigrant in that city had smallpox? Yet we still hear of physicians who advise delay in operations when an early, scientific eradication of the local disease would save the rest of the body from invasion.

2. The fact that we are dealing with an evidently parasitic motile germ should render our choice of the method of eradication more scientific.

Any curetting or other disturbance of the living germs should be absolutely barred, and incomplete operations with the knife should be equally avoided.

A wide-sweeping excision with the knife, without wounding the growth or permitting its living cells to come in contact with the freshly cut edges of the wound should be the only knife operations done.

Should such excision be impossible in the particular case—but in many cases even when it is possible—we should employ a method which kills the affected cells *in situ*, such as the destructive sterilization by the electric diffusion of the ions of zinc and mercury that I have advocated. The x-ray also acts, at times, in this capacity, being most effective in certain widely spread skin affections of slight depth; but this slow method should not be employed in cases in which a few minutes' employment of the ionization process would be effective.

3. It is clearly evident that the prevalent subconscious, view of many surgeons, that cancer is incurable and possibly even constitutional, is due to the result of unscientific operations on a parasitic motile organism that is readily reimplanted in a susceptible host by unscientific technic in its attempted removal.

A Few Medical Fallacies

With Remarks (Pertinent or Impertinent) Thereon

By J. H. BRISTOW, M. D., Portland, Oregon

IT was said of old that, if one afflicted with cystitis would but take a hard-boiled egg, puncture a small hole in one end of it and then place it near an ant-hill, the cystitis would disappear as the ants removed the egg's interior, and be altogether cured when the task of the ants was complete. I will make the unqualified statement that no physician of this time would consider that method as being of any material value in the treatment of cystitis. The moral contained in the foregoing is obvious, and I ask you to think of it at times as you read what follows.

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Even those of shorter memory will recall the time when we were taught to think of pelvic troubles whenever a woman patient presented herself complaining of pain in the head, especially if the pain were located in the top of the head or at the nape of the neck. Attention is called to the studies of Cabot and Dercum, wherein it is shown that in 2327 cases of headache not one of the women had any lesion of the pelvic organs that could in any way account for their difficulties. The conclusions were that pelvic troubles—meaning displacement, ptoses, inflammations, adhesions, and so on, do not give rise to headache. The vastly preponderating cause are nervous disorders and (next in line) high blood pressure.

Were I a woman with a pain in the back I should hesitate a goodly time before I took my troubles to a socalled gynecologist. (Translation of "gynecologist": One who operates on women.) We must all agree that a woman with a pain in the back has something wrong in her pelvis; for, look, how close the pelvis is to the back. The investigators mentioned above found that, of 2451 women with pain in the back, not one had any pelvic disease that could in any way account for her troubles. Every one of us can recall "operated women that we have known" upon whom studies, exhaustive and otherwise, were made of uteri that were displaced, flexed, or what not, and operations performed, for the purpose of curing pain in the back. The uterus was fixed, but not the pain.

These remarks will apply especially to that class of cases in which all sorts of ills are caused by general ptosis of the abdominal contents, and in which there have been performed all the astonishing uterine fixation, plication, ablation, and other operations in the catalog, with a perfect disregard or ignorance of the conditions of general ptosis.

Upon the part of the layman of the masculine persuasion a pain in the back necessarily means kidney disease, and it is truly wonderful what extraordinary localities the kidneys occupy; I am at a loss to know why pain in the back of a woman should signify pelvic disorder, while pain in the back of a man points to kidney disease.

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Lead and opium wash is known to us all as being about the best thing that ever happened for the cure of local inflammation. The lead constringes the tissues, thereby relieving congestion, while also, by its antiseptic action, destroying the infection. The opium, to be sure, relieves the pain.

Permit me to urge upon you the belief that lead and opium wash never did such a thing at all, and that, furthermore, you can do everything claimed for it with water. Try it, and you will find that the continuous application of water, according to the method used in applying lead and opium wash, will bring results as good in every respect. According to a classic legend seen on vehicles and fences in certain parts of the country, "it's the water."

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We are told that strychnine is a useful remedy in shock. It relieves shock by stimulating the spinal centers. Strychnine is a useful tonic. In parentheses: What is a tonic? For my own part, I have never been able to discern the slightest action from a physiological dose of strychnine, and I have given, hypodermically, as much as 1-15 of a grain in emergency. I have seen its action when taken in poisonous amount, and not otherwise. There are certain preparations of strychnine (as the arsenate) that I consider of value as a "tonic." (I hate the word.) In Germany strychnine is considered to be a drug of little value and is scarcely used. In this country we use vast quantities of it every year.

Of course none of us are ever guilty of prescribing pepsin in a mixture or in the presence of alcohol, for pepsin is inert in the presence of alcohol. The day is not long past since one of the most reliable drug houses in this country sent its representative among us, in order that he might show us how their essence of pepsin would digest milk and things. Finally it was demonstrated to this firm that there was no pepsin worth speaking of in their mixture, and that, anyhow, it was alcoholic. Now it is very modestly claimed to constitute a good vehicle. But, I wonder how many carloads of it were sold, on prescription, throughout the world, and how many cases of "indigestion" the alcohol in it cured. There was a fallacy in that, but not such a bad one, as I shall endeavor to show.

Pepsin converts albuminoids into peptones in the presence of acid media. Pepsin is a ferment. Pancreatin converts proteids into peptones in the presence of alkaline media. Pancreatin digests things; but pepsin digests pancreatin. But all this is nothing. We need pepsin and pancreatin and hydrochloric acid and some lactic acid and things to help us get away with what we take into our inwards, and therefore we have tablets and mixtures and elixirs and things in which are wonderfully combined, or contained, the active principles of spittle and gastric juice and bile and pancreas and spleen, and all that.

Perhaps you may think I am a little mixed here or that I am trying to confuse you. Not so. Only today there came to my desk a little booklet that naively explains all this tangle. I quote: "Digestion takes place all along the alimentary tract, and recent scientific researches show it to be interdependent. Therefore the true ferments . . . . should be used." Absolutely clear. As I understand it, the preparations that are so cunningly devised to cure our indigestion cause the different things contained in them to wait courteously upon each other, each performing its office at the right time and place, and in no way interfering with each other. That is the exact explanation of how digestives really act.

I cannot discuss papaw and some twenty thousand other things. The editor says "they aint no room."

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That "twenty thousand other things" is said seriously, for be it remembered that in this country there are about that number of proprietary remedies on the market, and about a like number of remedies of other sort. Forty thousand in all! In all that mess there are numbers of good things that help us wonderfully in our medication of the sick; but there is something wrong here somewhere. No one will contend that we need that number of remedies. Indeed it is well known that we can supply our ordinary needs with not over thirty.

I consider that the presence in the drug market of such a vast number of proprietaries is a disgrace to the profession of medicine. The vast majority of all these remedies were devised by those who have not the altruistic motives of the physician. Their aim and purpose is so clear that all may see. The major part of all this multitude of remedies was devised for financial gain only; and financial gain through such a channel can be had in only one way, which is, to play up to the difficulties of those poor mortals who, in sorrow, add to the sum of human misery by being afflicted with bodily and mental infirmities.

One would think that a profession as enlightened as ours would safeguard the public from the amount of dosing that makes the existence of all that dope profitable; but we must confess that it is by and through us that such a ridiculous situation is brought to pass. Let us pitch into the waste-basket the bundles of absurd stuff that comes to us through the mail; let us read up a little on the active principles, and finally possess ourselves of them in order that we may be rational and certain in what we give to the sick.

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I believe there are those who give codeine for the relief of pain. I speak particularly of severe abdominal pain and the pain that follows any sort of surgical operation. Now, there is an individual that is possessed of a certain amount of valuable information whom it would pay us to question regarding the outcome of some of our medication. I refer to the trained nurse. You prescribe a dose of codeine, but you do not remain at the bedside to note results. Your next view of the case is probably the next morning, and by then Time, that heals so many things, has permitted the patient to become better. The legend appearing on the chart, "Not a very good night," does not affect you much, seeing that now it is broad day, and the patient better; so you decide that your codeine is responsible for diminished suffering.

The nurse is reluctant to impart to you her unvarnished opinion of your medication; but, having questioned a large number of nurses, I find them practically unanimous in expressing lack of confidence in the value of codeine for the relief of pain. Having had pain, myself, and knowing of the attempts to relieve it with codeine, and judging from observation, I consider codeine valueless for the relief of pain.

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Does anyone ever prescribe a gargle? If so, have you ever determined just how much of the throat is touched by a gargle? And that reminds me.

Here is our old friend and neighbor, the tonsil. Talk about getting it in the neck! Wherever there is the means at hand there is going on a veritable slaughter of tonsils. They are literally being removed by the bushel. There is a fallacy here somewhere. We are told that the tonsil is the portal of entrance into the system for all sorts of pathogenic germs. I don't believe it. We are even told that an enlargement of the tonsil will cause constipation. I am at a loss to know whether the latter is reflex, mechanical, or something other. We have been taught that rheumatism—that dreaded infection—owes its existence to the tonsil. Even relief from nocturnal enuresis has been promised by tonsillectomy. It is, in fact, not to be denied that there are those who are attributing almost every disease in the catalog to a dereliction on the part of the tonsil.

The function of the tonsil is not clearly defined. Many germs of different kinds are found on it and in it. But who can say to a certainty how they happen to be there? Perhaps they may, in part, be in process of excretion, and that, in place of being on their way in, they are coming out. We are not able so to affirm, but it is possible that the tonsil may have an important role in the protection of the system against the invasion of pathogenic germs. What is of equal, or even greater, importance, the tonsil may be the factory for an important internal secretion.

I will call attention to one significant fact: All inflammatory troubles that belong specifically to the throat are apt to be of a mild nature just as long as the inflammation is confined to the tonsil; but, should such infection spread beyond the tonsil, then we immediately have a more serious condition. This was especially true of diphtheria before the antitoxin days. This applies to all infections of the tonsil, according to the modifications of their particular action. While not susceptible of proof at this time, one can well imagine that the tonsil, like the thymus gland, has some particular office to perform in the growth of the child.

I am not excessively taken with some of the things that nature, in her supposed wisdom, has performed; but I am not inclined to think that she has endowed the race with an organ, such as the tonsil, that should be removed under the excuse offered for the average tonsillectomy. With due respect for the many good and honest workers in this field, I feel that the time will come when we shall look back upon the average tonsillectomy as we now look at the wonderful things formerly done to the uvula.

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Why does a dose of calomel move the bowels? I can understand why a dose of castor oil will do so, for it is a lubricant. [And some more.—Ed.] It is never used in mechanics, though, for the reason that it gums up the bearings. Doctors who drive buggies ought to look that up.

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In considering a few of our failings, it would be well to tarry for a moment with the "antibody." We hear a lot about vaccines and antibodies these days, and beyond a doubt we are all the time coming closer to the halcyon days when we shall emerge from our long-time war upon disease with "victory perched upon our banners." At least as near as possible and still be human and mortal.

But it seems to me that we arrogate to ourselves a vast degree of knowledge in this generation that we are pleased to term so "modern." The world has been here quite a spell, I hear, and most of the time it has been on the move. I am impressed with the idea that it is going to keep it up, for a while at least. We think we know a whole lot more than our ancestors did, even those of them whose bones have not yet been assimilated back to other places in nature besides just ancestor bones.

Those ancestors had their remedies in which they placed just as much faith as we do in our vaccines. I realize that Amos, in his "treatment of typhoid fever with vaccines," showed us facts, or what appear to be facts, proving the wonderful efficiency of vaccines in the treatment of that disease. But his ancestors could show similar wonderful improvements over those who had gone before. They had the figures for it too, and have passed them on to us. If we are inclined to hold in slight esteem the knowledge of those who blazed the trail for us and consider ourselves as being superlatively well informed, we should offer the apology to posterity that we were but human. We should, doubtless, make special provision for an apology concerning vaccines and antibodies.

Do not consider that I am "agin," or "forninst" our work along these lines, for I do my best to get results with the vaccines where they seem indicated. I wish, however, to call attention to a recent remark of my own: "There are many skilled workers who seem already inclined to depart from the usual and well-established methods in the preparation and use of vaccines."

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Glycerin and mud and stuff is applied to the skin for the reason that it possesses a hygroscopic action that causes a sort of transudation of inflammatory materials from any parts beneath the application, thereby relieving inflammation. There! Consider what a miracle is performed. As much as twelve years ago it was demonstrated by scientific experimentation that absorbent cotton had mud and glycerin tied to a post when it comes to the absorption of materials thrown off from the skin, including all conditions, pathological and otherwise, and all locations. Since that time there must have been shiploads of mud and stuff applied to the skin of suffering humanity by what we are proud to call an enlightened profession. It is so absurd to consider any antiseptic action from such a mixture that, having mentioned it, I will pass on.

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Fallacies. In our almost feeling of infinite wisdom, we arrogate to ourselves wonderful deeds in modifying the processes of life. Indeed, right here in our own time comes Prof. Schaefer, who says that we can, by chemical means and without Divine intervention, produce living protoplasm. I have not the remotest doubt of the truth of his assertion, for it is well known to me that, if you pluck from the tail of a black mare a hair at the time when the June moon is dark, and place the hair in running water at any point where the water will finally flow into either the Wabash or Nolachucky River, it will turn into a water-snake!

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How well we can remember the time when everyone who could afford it had in his office an x-ray machine and just naturally cured everything with it. I speak reverently of the dollars we parted with for them. The x-ray machine, with its glass wheels, and its big noise, and its dish of lime, was not yet rusty, indeed it was still running (with more noise), when one and all parted with the money we make so easily for a vibrator.

Our vibrator, speaking collectively, would vibrate anything from the skin clear through to the uttermost structure. It would vibrate through an arc as wide as the firmament, or as narrow as a hair-follicle. It would vibrate up and down or crossways or in a circle. Among other things, it would cure pruritus ani, bubo, psoriasis, and constipation. I understand that on the East Side there were women who went to the doctor regularly for a vibration whenever they wanted a movement of the bowels. I have not the remotest doubt that there were those who attempted to produce abortion with the vibrator. To make our humiliation complete, the manufacturers, when they had taken all they could from us, put full-page ads in the daily papers, demonstrators in the show-windows of the electrical supply houses, reduced the price several hundred percent, and sold thousands of vibrators to the laity. The lay mind arrived quicker than we did, for the crusade lasted but a few months, while with us it lasted several years. All in the same generation that uses vaccines and talks about antibodies.

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The temptation to say something about medical books, meaning textbooks, books on special subjects and other books too numerous to mention, is a great one. One hardly dare speak in a spirit of criticism, for the books represent the vast volume of work upon which our knowledge is founded. But it begins to be an irksome task to listen to the song of the bookman who wishes to sell you five volumes at seven-fifty per, in order that you may be possessed of the very latest views of Prof. Senhorsler regarding the action of the nasal secretion in the month of February. All can recall the remarks about the necessity of having this book or that in order to have a complete library. No library complete, in fact, without this leader, terms to suit.

It begins to look kinder funny when it is absolutely impossible for one person to buy, much less to read, even a small part of the books that are offered. At a hazard I will make the following statement: There is no man who has read more than a tithe of the books printed in the last five years—or three—or one—or whatever period you like, including only those books represented to contain essential knowledge. I may not understand the book situation, but in any case I am afraid to try to explain.

The medical-book seller used to be a pleasant man to interview, but there is a growing tendency for him to try out upon us the average methods of the book-agent, and to show an undue persistence in his desire for sales, and finally a disgruntled countenance if we fail to buy. I am waiting to replenish my library, because I feel that pretty soon there will be a clock and paper-weight and pocket-dictionary given as a premium, and that we shall be charged "only for the binding"—and that will be such a good binding that it can be washed clean with a wet towel.

I have a remedy to offer for this sort of thing. It is well known that the majority of the book-houses who print our books are in no way obligated to us, nor have they any connection with us. They print our books and undertake to sell them to us, all as a side line to a general printing business. It seems to me that it would be better if our books were printed by houses whose exclusive business it is to cater to the profession, or by a concern controlled by the profession.

Some grouch. What!

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[Reading the preceding you may arrive at the conclusion that Dr. Bristow is a pessimist, a nihilist, a destructive critic, and all the other things we optimists look upon as "bugaboo." Not a bit of it. He really is a hard-working and successful constructive clinician, and to prove that this is the case he has promised to prepare for us (after a reasonable amount of recuperation from the effort involved in getting "Fallacies" out of his system) a practical paper upon a topic that we believe will interest every reader of Clinical Medicine. We shall hold him strictly to his promise.—Ed.]

An Effective Treatment for Scarlatina

With Notes Upon Symptomatology

By GEORGE H. CANDLER, M. D., Chicago, Illinois

THREE varieties of scarlatina generally are recognized, namely: (1) simple, (2) severe, (3) malignant. Practically every attack may be regarded as simple in its earlier stages. On an average, nine cases out of twelve develop within five days after the subject has been exposed.

The prodromal symptoms are: malaise, sore throat (which may take the form of a well-marked tonsillitis), anorexia associated with nausea or vomiting, and a more or less pronounced chill followed by hyperpyrexia.

Symptomatology of Scarlatina

The patient's tongue is coated early in the attack, and the breath invariably is foul. He may complain of headache and of discomfort or pain in the throat. Within twenty-four hours we have to deal with a really sick child, the pulse at this stage being rapid and thready, and the temperature ranging from 101° to 103° F. Extreme irritability or semistupor will usually be observed.

Some time within twenty-four hours the typical rash makes its appearance; the temperature during this period may reach 105° or even 106° F. Improperly treated, this condition persists, the temperature ranging each day between 102 to 105 degrees, with the patient presenting signs of profound systemic sepsis.

The cervical and submaxillary glands are enlarged, and the angina becomes pronounced. A small quantity of high-colored, extremely acid urine is voided; the bowels are constipated; extreme thirst is experienced. Albuminuria is not uncommon. It should be remembered always that the septic process seems to center in the lymphatics or else in the kidneys. The appearance of the tongue usually is typical, especially by the time the rash appears. It is heavily furred, with red border and tip and the papillæ prominent generally over the surface, the whole presenting the "strawberry tongue" of the textbooks. The buccal mucosa rarely shows any abnormalities. The maculæ which are observed in the earlier stages of *measles* are not present in scarlet-fever; however, stomatitis occurs occasionally.

The rash persists for from forty-eight hours to seven days. Under appropriate treatment, however, desquamation usually begins on the fifth day, and normal conditions will again obtain within two weeks. Where correct medication is instituted early, that is, before or just after the rash has appeared, the prognosis is good in practically every instance. If the patient is seen after the period named, the prognosis should be guarded; yet even here prompt elimination and the maintenance of relative intestinal and systemic asepsis, together with support of the normal resistant and vital forces, will accomplish more than any other method.

The writer has treated a sufficient number of scarlatina patients to enable him to express an intelligent opinion, and he believes that the intense sepsis, exhaustion, hemorrhage, aspiration-pneumonia, and nephritis, which so frequently cause a fatal termination, can be prevented in practically every instance.

The Treatment of Scarlatina

The foul tongue, circulatory disequilibrium, together with nausea, headache, and general malaise alone point decisively to systemic toxemia; the initial chill and subsequent fever speak plainly of the effort of the body-forces to resist the invasion of bacteria from without and noxious ferments from within. Thorough elimination—renal, cutaneous and intestinal—therefore is the first essential consideration in the treatment.

Children under ten years will receive immediately 1-10 of a grain of calomel, 1-12 of a grain of podophyllotoxin—or 1-64 of a grain of podophyllin—every half hour until six such doses have been taken; 1-12 of a grain of bilein may advantageously be added to every other dose. *Children over ten* should receive 1-6 of a grain of calomel and 1-6 of a grain of podophyllin every hour for twenty-four hours; calcium sulphide, 1-3 of a grain; nuclein, 8 minims. After the first twenty-four hours, this combination should be given once every two hours. Then, one hour after the last dose of calomel and podophyllin, an effervescent laxative saline draught should also be given, dissolving one teaspoonful of the saline in one-half to two-thirds of a glass of sweetened water. This flushes the intestine, soothes the irritated mucosa, and acts as a diuretic.

As soon as the bowel has acted freely, a copious enema of decinormal salt solution should be administered. If a portion of the enema is retained, whereby renal activity will be materially increased, this step alone often saves renal complications. After twelve hours, under such treatment, sulphureted hydrogen will be present in sufficient quantity in the system, the intestinal tract will be cleared of gross debris, and fermentation and spore growth will be inhibited.

The Care of the Skin and of the Throat

The patient now is carefully undressed in a warm room—exposing only a portion of the body at a time—and the skin sponged with a creolinated solution of magnesium sulphate (magnesium sulphate, 1 ounce; creolin, 10 minims; water, 1 quart). After drying, the whole body is anointed with a good antiseptic oil. The latter application should be repeated morning and night. After five days, the patient's body is again thoroughly cleansed with the epsom-salt solution, as warm as tolerable; the oil then being applied but once a day.

The mouth, throat, and nares should be cleansed with an alkaline antiseptic solution several times each day, always before taking medicine or food. One compound menthol tablet dissolved in 12 ounces of water containing 2 drams of glycerin proves an ideal preparation for this purpose.

We now have a therapeutically clean patient, usually with skin, bowels, and kidneys excreting freely; the entire system, moreover, being saturated with sulphureted hydrogen, while leukocytosis has been stimulated by the nuclein. The patient's temperature at this time (12 to 24 hours after the first visit) probably will be found 2 or 3 degrees lower.

At this stage, calcium sulphide and nuclein should be continued, giving it every two hours. In addition, aconitine, 1-1000 of a grain in solution (smaller doses if the patient is under the age of 5) should be given every two or three hours, to relieve congestion, relax the capillaries and equalize circulation. The addition of digitalin, 1-64 of a grain, to every other dose, will increase these desirable effects upon the heart and large vessels. However, if the skin is unusually dry and the pulse hard and full, veratrine should be substituted. Veratrine, it should be remembered, markedly stimulates the lymphatics and, as extended clinical experience has proven, strongly antagonizes the toxins of scarlet-fever. After twenty-four to forty-eight hours of such treatment the pulse will be quick, but soft and regular; the skin moist, tongue reasonably clean, and the temperature ranging around 101° to 102° F.

Now cool barley water flavored with lemon or orange juice should be given freely to insure diuresis; also, twice a day, a small quantity of a laxative saline.

Throughout the entire course of the disease it is desirable to push intestinal antiseptics. An ordinary dose of an intestinal antiseptic

—the three sulphocarbolates combined, or 1 or 2 grains each of the sodium and calcium sulphocarbolates followed by a few swallows of water—should be given every four hours throughout the day. If the stools are foul or diarrhea is present, the combined sulphocarbolates of sodium, calcium, and zinc prove preferable. When the intestine has been emptied and is comparatively free from pathogenic microorganisms, the sodium and calcium salts may suffice, 1 grain of each three times a day not infrequently proving sufficient. The physician naturally will be guided by the state of the bowels; always remembering that sodium sulphocarbolate is indicated where hyperacidity and flatulence obtain, and that calcium is essential to cell reproduction. The latter element, being almost entirely lacking in the food allowed the sick child, should be supplied by the physician.

The throat should be cleansed thoroughly (sprayed or swabbed) with diluted hydrogen-peroxide solution morning, noon and night. Furthermore, if the angina is at all pronounced, calx iodata, 1-3 to 1 grain (preferably in powder form) should be placed dry on the tongue and washed down with a few sips of water. Also, compresses wrung out of a warm carbolized epsom-salt solution may be applied to the throat; the compresses, frequently changed, being covered with flannel.

On the third to fifth day, as a rule, the child feels well and wants to get up. At this period the aconitine and digitalin (or veratrine) may be dropped, while the calcium sulphide and nuclein are given in reduced dosage (1-6 grain and 2 minims, respectively) every two or three hours. The sulphocarbolates, of course, will be continued—together with calx iodata—if the throat symptoms demand it. Every second or third night calomel, gr. 1-10 to gr. 1-6; podophyllin, gr. 1-6 hourly for two or three hours, should be ordered.

Desquamation having commenced (which, though, may not at any stage be apparent, save on the plantar and palmar surfaces), the child should be bathed thoroughly from head to foot with hot water and a good antiseptic soap, dried, rubbed well with the antiseptic oil, and then put into a union canton-flannel night-suit. All other clothing and all hangings should be removed and soaked for three hours in a 1 : 10,000 bichloride solution, then boiled.

Finally, when desquamation is complete, the patient should take 'a hot bath in a 1 : 10,000 bichloride solution, be enveloped in a sheet wrung out of the same solution, and carried into another chamber, where he may don clean clothes, ready to reenter society. The sick-chamber and contents must be fumigated in the usual manner.

The various complications which may arise are not here considered, for the reason that under this treatment they do not occur in one case out of a hundred. As a matter of course, the urine must be examined from time to time, and possible uremia guarded against. Should there be suppression, small doses of glonoin and of caffeine, copious saline enemata and the hot-pack will be found efficient; cactin and brucine support the heart.

The convalescent should be placed upon the arsenates of iron, quinine and strychnine, with nuclein, after meals. Also, some mild glandular stimulant (xanthoxyloid or irisoid, gr. 1-6 to gr. 1-3, three times a day) is advisable. If lime insufficiency is apparent, calcium lactophosphate should be ordered.

Bacterin therapy has at last invaded the field of contagious diseases, and there is on the market at the present time a polyvalent scarlatina bacterin containing many strains of the streptococci encountered in patients suffering from this disease. While my experience with it has been too small to warrant me in making deductions as to its value, excellent results have been reported as following its use. When employed prophylactically, three doses are given at intervals of seven to ten days. The first dose contains 250 million dead germs, the second 500 million, the third one billion.

Undoubtedly scarlatina bacterin has been used with marked success for the prevention of scarlet-fever. It will provide protection for the majority of persons who may be exposed, while it modifies the course of the disease favorably in those who may develop it after vaccination. After the disease has developed—or as soon as diagnosed—from 10 to 50 million of the killed streptococci are injected as an initial dose, this to be repeated every one to three days. The condition usually clears up rapidly, the temperature falling within twenty-four hours; after which a second injection may be made if a tendency to rise again is observed.

It is asserted by those using the bacterins that complications are largely prevented by their use in this disease. Many of these complications are directly due to streptococcic infection.

It is advisable to use bacterins in the treatment of every case of scarlet-fever, since they do no harm and are not contraindicated, except in patients suffering from nephritis.

My First Fat Fee

How I Won Fame and Fortune in Africa

By **RALPH ST. J. PERRY, M. D.**, Farmington, Minnesota

EDITORIAL NOTE.—Dr. Perry warns the readers of CLINICAL MEDICINE *not to repose too great faith in the circumstantial verity of all the details of this story. He yields this point to the cause of Truth! However, he does not believe that a few minor details should spoil a good story—and, anyhow, in their essentials the real facts are substantially as here recorded. In his earlier days he spent a number of years in Africa, as a medical missionary, and experienced many things which now seem stranger than fiction.*

"LOOK out, boy! Him cotch yo'! Him cut yo' ea's off! Him powerful bad man!"

Several pickaninnies ran past the front porch of Dr. Moore's house, where the doctor and I were talking one evening, and from their terrified exclamations it was evident they had been up to some kind of mischief. As they disappeared down the street in the darkness Dr. Moore volunteered the information:

"They've been teasing old Orejar Rajar, I guess, and they are afraid he'll catch them."

"Who's old Orejar Rajar?"

"He's an old Spanish slave-trader, who lives around the corner, and the kids in town think he's a regular devil or some other kind of a monster. They take great delight in throwing stones at his house after dark, though they're scared to death of him in daytime."

" 'Orejar Rajar' is rather a queer name for a man; it sounds like Spanish and evidently means 'slit ears.' "

"Well, that's exactly what they call him; he's got both ears slit all right. But his right name is Gonzales Lebresa; at least that is the name he is known by on the official records of our country."

"Who is he or what is he?"

"He is something of a mystery. He has been here ever since I was a small boy. Came to Monrovia just about the close of the American civil war, bought the block over there, built his house, and he and his old servant have lived there ever since. He seems to have plenty of money; he never goes anywhere, and no one ever comes to see him. Once every two or three weeks he gets a letter from a law-firm in England and sends an answer, and that is about all that anyone knows regarding him."

"He is evidently the recluse victim of village curiosity and gossip."

"Hardly now, except for the younger generation. We older folks have long since grown accustomed to him and no one pays much attention to him now. There used to be told stories of clanking chains and ghosts and all of that kind of nonsense, but no one except the children and a few superstitious persons keep the stories alive."

Stalking the Game

And while other topics intervened to check our conversation regarding the old slave-trader, my thoughts would persist in reverting to the matter of the slit ears, and I resolved to discover, if possible, the reason for the slitting thereof.

The next morning my "constitutional walk" was deliberately directed so as to lead me past the old man's house. It faced the east and the sun beat fully upon the vine-covered spacious porch, but nothing was to be seen of the slave-trader. Again in the afternoon I meandered that way, and to my satisfaction the old gentleman was sitting at a small table playing a game of solitaire.

A man apparently past sixty years of age, of medium stature, evidently well-muscled even after years of retirement from active life; smooth-shaven, but with a wealth of long iron-gray hair that was carefully combed down over the ears; and wearing a silken cap which held the hair in place. As I passed the gate and glanced in, my quarry chanced to look up at me. Our eyes met, and I very politely saluted him and bade him "Buenos tardes, senor."

My salutation was gravely acknowledged by a wave of the hand, but no sound escaped the lips. The next afternoon I again passed the house, but saw nothing. The third afternoon the old man was on the porch and not only returned my salute but spoke to me. When approaching the house the following afternoon I was surprised to see the object of my study standing at the gate. Again my manual and verbal salutations, again the acknowledgment; and, although consumed with a desire to interview the old gentleman, it was, I thought, best to pass by rather than appear overly anxious to engage in conversation or as one seeking to pry into private affairs. For two days thereafter I kept away from the house, purposely, lest the impression be conveyed that an effort was being made to establish communication.

A Midnight Call

Shortly after midnight there came a vigorous rapping upon the door of the house where I was stopping, and in response to the landlady's query there came the question:

"Is the American doctor here? My master is taken suddenly ill and requires his services." Whereupon the landlady came to my apartment and informed me that the servant of Sr. Lebresa stood waiting at the door to escort me to his master's house.

Hastily I dressed, and picking up my medicine-case hurried to see what ailed my mysterious new patient.

"Buenos noches, senor," said I as I entered the sick-chamber.

"Buenos noches," replied the patient, "Habla Usted espanol, senor?"

"Ah, poquito, senor; muy poquito."

"Muy poquito? very little, hey? Well, then, you and I can speak the English, senor, for I can speak your language very well."

And then in very good English he proceeded to tell me his trouble, which, like many other sudden attacks of sickness, was acutely painful but almost without danger. In a few moments hot applications and an anodyne had relieved the pain. So, giving his servant directions as to the medicines left to be taken, I was preparing to return to my apartments.

"Not going so soon, doctor?"

"There is nothing more for me to do; you are feeling comfortable, you have medicines, and your servant is here to attend you."

"Well, never mind that, I sent for you in preference to any other physician because I believed you would not run out and tell everybody what you saw and heard here. You are an American, and although the Americans ruined my business I admire and have confidence in them. Many of my best friends are Americans. What part of the country are you from, doctor?"

"Northern; what is called the Middle West."

"That was outside of my field of operations."

And for half an hour we talked, until at last the welfare of my patient demanded a cessation of verbosities and, with the promise to call during the afternoon, I left him to the ministrations of his faithful old servant.

During the course of the afternoon a call was made and the old gentleman was found feeling very well; and, at his solicitation, the visit was prolonged until rather late, and then nothing would do but I must stay to tea. These professional visits gradually merged into friendly ones, and ere long the old slave-trader and I had become "old cronies" and were indulging in an exchange of reminiscences which led him to tell me many things of himself. One afternoon he brought forth two pictures for my inspection, photographs of two beautiful young women. While I was feasting my eyes upon their superb loveliness the old man murmured:

"My daughters."

"Your daughters!"

"Ah, yes, doctor, they live in England and I have not seen them since they were babies."

"Well, good Lord, man, why don't you go and see them? Why do you stay down in this God-forsaken country when you could be with them?"

"You forget my disgrace, doctor."

"Your disgrace? Why, everybody in England has long since forgotten your connection with the slave-trade. You certainly need not keep away on that account."

"It is not that, doctor; it is these," and he touched an ear. "You have been here in Monrovia long enough to have heard the stories that are told of me, and while you have never hinted at it I know you must have heard of the name of 'Old Slit-Ears' that they apply to me behind my back. Well, it is just because of my slit ears that I am living here in Monrovia instead of in England with my children. I am too sensitive to live among other civilized people who point out and jeer and ridicule my disfigurement, and I could not subject my daughters to the shame and embarrassment which my appearance or residence in their home would inevitably bring upon them."

A Cosmetic Proposition

"But, my dear senor, you need not let that keep you practically marooned here on the Guinea Coast. Your ears can be made as good as new. By modern surgical methods the edges of the slits can be brought together so accurately and caused to heal with such little scars that one could scarcely tell you had ever suffered the indignity of having had your ears slit."

For fully a minute Lebresa gazed at me in dazed astonishment while he digested what I had said. Then, speaking very slowly and deliberately, he asked:

"Do you mean to tell me, doctor, that you can perform this wonderful surgical operation?"

"Yes, senor, it is a simple though rather delicate bit of work, requiring very careful and deliberate action on the part of the surgeon and much calmness and endurance on that of the patient."

"And when can you do this?"

"Any time, senor. It would require several days to prepare the fine sutures to be used in the work, and then to prepare your ears and head would take a day or two."

"What would you do to my ears and head?"

"Clean your ears thoroughly, shave your head and scrub your scalp."

"My ears are always clean," he asserted with some show of asperity.

"Not surgically clean"—and Lebresa was given a short lecture on the technical requirements of antiseptic surgery, which was just then being made known to the world.

"You shave my scalp. Suppose the operation is not a success; then I have no hair with which to cover my ears."

"In which event you will have to wear a wig."

"In which event I have to wear a wig; and there are no wig-makers on this coast. However, I believe I'll chance it. Many worse chances I have taken in my lifetime and won out. How would one week from today suit you? No! Today is Friday; we'll make it next Thursday, my boy, next Thursday, and may Allah attend thee and guide thy fingers in their work. Now let us play a game of *vingt-et-un*, to see whether you get a fee or not."

And the subject was dismissed as suddenly as it had come into our conversation.

The Split Ears Repaired

The following Tuesday Lebresa's head was shaved as smooth as a billiard ball, his ears and scalp were given a preliminary antiseptic scrubbing and wrapped in an antiseptic gauze bandage. This scrubbing was repeated daily, and on Thursday came the ordeal for the old man. My friend, Dr. Moore, had been called in as a necessary assistant to administer the anesthetic, and as Lebresa passed into the painless somnolence his last muttered words were about his daughters.

"Fix them up fine, doctor, for you know I am doing this for my babies; my babies, doctor, my ba——"; and he had lapsed into a condition which rendered it safe to proceed with the cosmetic operation.

For more than half an hour there was trimming and shaping, approximation and suturing, and finally the work was completed and the protective dressings and bandages applied. Slowly the old man came back to his senses. Once, to rouse him from his listless condition, I slapped his face with a cold wet towel; he opened his eyes, gazed stupidly at me and murmured, "You are not my baby; go away."

At last he came to his normal condition, after we had transferred him to his bed, and immediately was wild with curiosity to see his ears. But there was no trouble in convincing him of the impossibility of this and inducing him to wait until the dressings were changed the following day. When he did see the result of the operation he was delighted; and when ten days later the fine horsehair sutures were removed he bounded to the mirror and spent fully five minutes in examining and admiring his restored auricles, then danced and capered around like a child with a new toy.

"When can I go to England, doctor? When can I see my daughters? Good God, doctor, do you know I had long since given up all hope of ever seeing any of my family again? Years ago, before my babies were old enough to remember impressions, I left them with their mother to live in England, while I came to Monrovia, and I have never seen any of them since. They do not even know where I am. All communication has been through the firm of lawyers in London who look after my business interests. But now, praises be to Allah, I can go to them without bringing the blush of shame to their faces, without humiliating them. When can I go, doctor; when can I go?"

"Oh, possibly in a month or two; probably longer."

"Longer! Why, man, I may die before that time!"

"No danger of that, senor. But you must wait until the ears have grown solidly together; you must wait until your hair grows again, and you must arrange your affairs here. These are things that cannot be rushed; you know nature takes her own time about her own work."

"I am willing to await nature's healing of the ears, but the growth of the hair can be forced, and my affairs here can go to the devil or anywhere else. You can have the property if you want it, for I am going to quit Monrovia forever."

Lebresa proved to be one of the hardest patients to control because of his impatience. In due course of time his hair grew to a presentable length and the ears attained a degree of cohesion where it was permissible to handle them as other ears are handled. Arrangements had been made for the sale of the property through Dr. Moore's business agents and word had been sent to the wife and daughters in England that in a few weeks the father would join them.

One day Dr. Moore informed me that he had received one hundred dollars for his services as my assistant, and remarked that I must have received a good fee. But I had not, nor had the matter been mentioned by either Lebresa or myself. The day arrived for his departure and with his luggage and his old servant we took him out to the steamer in a lighter-boat and bade him farewell. As we parted at the top of the gangway Lebresa grasped my two hands in his, the tears trickling down his face.

"My dear doctor, God knows how grateful I am to you for what you have done for me, and may His blessings always attend you. Here are some papers for you to read when you get ashore. If you should ever want to visit England they may be of some value to you. Goodby, my boy, and may the blessings of Allah be upon thee."

Half an hour later, in Dr. Moore's private office, our combined curiosity compelled us to examine the papers. These consisted of two pieces, folded twice, and the following note:

"My Dear Doctor: One day you suggested that I ought to write the story of my life, as it would prove interesting reading. I am going to do it. I have always kept a diary and a ship-log and can easily gather together and sort out enough material to make quite a story. When I get settled in England this shall be my recreation and I shall leave the manuscript to you as an inheritance, for I do not want my memoirs published until I am dead. My executors will turn them over to you.

"As to the surgical operation you have performed upon me, no money consideration could express my gratitude, but I am leaving with you the enclosed two small engravings, hoping that they may partially compensate for the worry and trouble caused you. In England I shall assume my correct name and drop from African life as completely as one dead, but my family, one and all, shall forever remember you as a good and true friend. Very gratefully yours,

GONZALES LEBRESA."

I passed the note over to Dr. Moore for his perusal and unfolded the two pieces of paper. My amazement was apparent, and in the acute transitory paralysis which seized upon me they slipped from my hands and fluttered to the floor. Dr. Moore picked them up.

"One thousand pounds each! Two thousand pounds on the Bank of England! Whe-e-e-ew! Sa-a-ay, mister! The next steamer leaves in two weeks!"

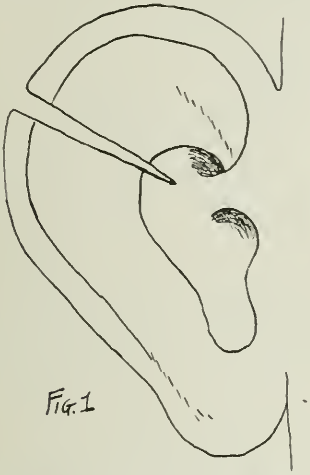
One morning, some years ago, the newspaper in my home city chronicled my homecoming from a winter's sojourn in the West Indies. About ten o'clock my telephone brought me a request to call at the offices of a prominent law-firm, where, after certain perfunctory preliminaries, there was turned over to me a sealed package of papers which the lawyers stated had been entrusted to them by an established firm of barristers of London, England, to be delivered unopened to me in person. When opened in the privacy of my library, the contents of the package turned out to be the "Story of Gonzales Lebresa, a Slave-Trader," who has been brought to the notice of my readers in this rather prolix narrative of my first large fee.

The Remedial Operation for Lacerated Ears

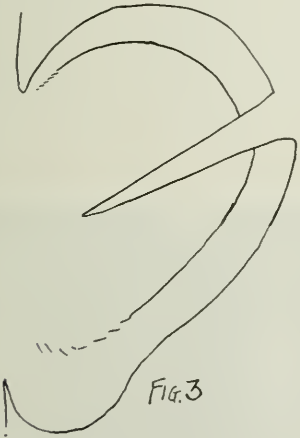
The drawings show the lacerated ears described in the story of Gonzales Lebresa. In this case the lacerations were really slits cut in the ears with a sailor's sheath-knife and allowed to heal by granulation, without union, and with the infection and suppuration usually found in such cases. The remedial operation consisted in freshening and smoothing the edges of the cuts under aseptic conditions and then sewing together the divided parts, using horsehair or very fine silkworm-gut sutures.

To secure the best possible coaptation of the irregular surface, the peripheral stitch No. 1 is inserted first, at the *outer* edge of the helix. This insures smoothness of the contour of the ear in a place where any irregularity, offset or notch would be very conspicuous. Next the central stitch (2), in the antihelix, is inserted. Then follow the others, as many as may be needed to insure cosmetic coaptation.

These stitches include only the skin and do not pass into the cartilage of the auricle. Having secured the best possible coaptation on one side of the ear, follow the same course on the other side. The sutures are not tied upon insertion, but the free ends are held in hemostats until all are in place and the effect of the whole can be noted. If the coaptation be satisfactory, then the sutures are tied and the ends cut short.

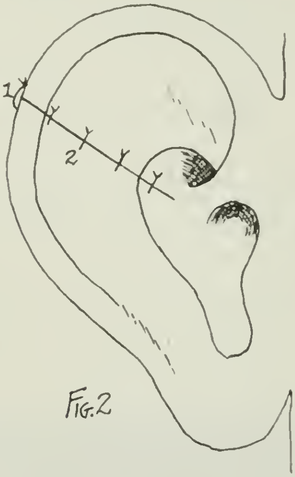


Frontal aspect—Ready for stitches

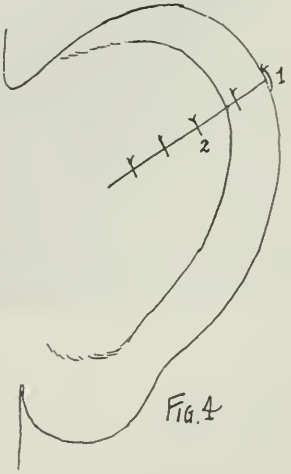


Posterior aspect—Ready for stitches

These two sets of sutures will maintain the cartilage edges in apposition so that good union will result. The sutures should not be removed before the seventh to the tenth day, depending upon the progress of the union. Aseptic dressings are to be applied, and changed as often as necessary. In a case of fresh laceration, the procedure is the same as in old lacerations—*sans* the freshening of the edges. After the stitches are removed care should be exercised in handling the ears lest the cartilage be torn apart along the line of union.



Frontal aspect—Stitches in place



Posterior aspect—Stitches in place

Four Rare Cases

Infantile Hernia; Fracture of Femur in Infant; Anthrax; Fracture of the Sternum

By E. GARD EDWARDS, M. D., La Junta, Colorado

THE following cases are presented solely because of the rarity with which they are likely to occur in the work of the general practitioner or the specialist.

Strangulated Hernia in an Infant

1. Authorities inform us that strangulated hernia in a subject under three years of age is practically unknown. This patient, aged eleven months, suffered from a congenital hernia. The attending physician, consulted to relieve an attack of colic (so called), diagnosed strangulated hernia, basing the diagnosis on the continued pain, vomiting, and an irreducible lump in the right inguinal region. The latter persisted after taxis under chloroform and the continued application of an ice-bag.

X-ray of fractured femur in a child of two months

Operation showed a typical strangulation, with the bowel in a semigangrenous condition. As nearly as possible, considering the embryonic condition of the tissues, a Bassini operation was performed. Naturally, a recumbent position for the patient was impossible, and the child was dismissed from the hospital on the third day. In spite of the lack of rest, the end-results were good. Three years later there had been no return of the hernia.

Fracture of Femur (Infantile)

2. The patient, one of twins, a well-nourished child of two months, was lifted in the usual way by the mother, for the purpose of fastening a diaper. The mother thought that she heard a snapping of bone, but did not become alarmed until some hours later when an apparent bulging of the femur showed. Examination under chloroform gave the typical signs of a fracture of the femur.

Following diligent search of all available authorities was made and various methods of retaining the fragments were tried, none of which was successful. In spite of the utmost care, an ulcer developed over the site of the greater trochanter. Erysipelas followed, ending in the death of the patient.

Anthrax

3. The patient, a large well-nourished man of forty-eight years, while skinning a beef dead from anthrax, scratched the index-finger of the right hand. Within

The patient with the fractured sternum

twenty-four hours he was in an alarming condition but was assured by his physician that he had, at the worst, a case of "blood poisoning."

Upon his admission to the hospital, some forty-eight hours after the infection, he presented, even to the casual observer, a typical case of anthrax, including the edema of the tissues over the arms and chest. Microscopical examination of the contents of several blebs showed a positive and very typical infection.

In spite of drainage, by means of multiple incisions and the use of vaccine, the patient grew progressively worse and finally succumbed to the disease, four days after the inoculation.

Fracture of Sternum

4. Stimson gives the mortality of fractures of sternum as twenty-five percent. Beck confines his statistics to the bare mention that this fracture occurs in one percent of all fractures.

This patient, age 72, was thrown from a heavily loaded wagon, one of the rear wheels passing over the chest. He refused medical attention immediately following the injury, and twenty-four hours later, after a ninety-mile railroad journey, presented himself for treatment, and with the following symptoms: A palpable fracture of the sternum evidenced by mobility and a depression of at least three-quarters of an inch between the contiguous surfaces of the sternum; temperature normal; respirations practically normal but embarrassed; dyspnea absent; cough constant but without expectoration. Physical examination showed mucous rales throughout both lungs.

A photograph of the patient is submitted. A radiograph was not made, the diagnosis being apparently too conclusive for this procedure.

Reduction was made under chloroform anesthesia, following the method of the authorities, i. e., the patient prone, shoulders drawn back over the edge of the operating table with arms over head, upward pressure being exerted on the arms and downward pressure on the lower part of the chest by assistants. The entire lower part of the chest was bound as firmly as possible with adhesive plaster completely encircling the body. After the above procedure, there was approximately close union of the divided parts of the sternum.

Within one-half hour after the anesthesia, patient was removed to a nearby residence and the following day made a twenty-mile stage trip to his home. Relief from the cough was practically instantaneous and the end-result was recovery with a minimum of deformity.

Ingrowing Toe-Nails

By DR. P. COSMAN, New Haven, Connecticut

We may divide the painful condition known as ingrowing toe-nail into two classes, namely, congenital ingrowing nails, and acquired ingrowing nails. The former condition is, of course, more difficult to treat than the latter, for the reason that it must continually be kept under observation, while the acquired condition can be cured absolutely, without fear of recurrence. Practically every physician has had occasion, I presume, to see or treat this morbid condition of toe-nails, and so, as the nail of the big toe is the one generally involved, we shall endeavor to give a concise idea of a rational treatment. If, however, any of the other nails is involved, the treatment is the same, only less complicated.

The first thing to do is carefully to clean out the hard accumulations forming under the nail's edge with a little sharp curette. If the doctor has not a special curette, he may use a small nose-curette. Now, after removing this matter, wash thoroughly with a 1 : 1000 mercury-bichloride solution, with strong small scissors or a nail-clipper cut away the upper corner of the offending side of the nail. If unhealthy granulations are present, do not clip or curette them away, for only unnecessary bleeding will follow. Simply apply burnt alum and dress the toe. This dressing should be renewed every twenty-four hours, until all unhealthy granulations have disappeared.

Only now are we ready to treat the offending nail edge itself. It is a fact that the root of the nail is very seldom involved, except when smashed; hence, in all ordinary cases we do not need to have a surgical operation requiring the patient to take an anesthetic or keep his bed.

Proceed this way: Wash and clean thoroughly the nail-grooves, dry with cotton, fill the groove of the offending side with salicylic acid, on top place just a little white vaseline, then bandage. Renew this process every other day until all the skin surrounding the nail-groove is snow-white. Now insert a small, long strip of thin gauze, and scrape away all the white epidermis around and in the nail-groove. It will be removed absolutely without pain. The reason for doing this is, that a very broad and deep groove is left in which we can better work and which, of course, leaves us the side edge of the nail free from its tip down to its base, or rather to the point where the root starts. At this juncture we take a long, straight, and heavy nail-clipper, or even a bone-clipper, push this over and under the offending nail edge down to the point where the root starts, and with a single clip the offending part is off. Mind well, in an experienced hand this whole operation can be done and without the use of a local anesthetic, or, as this method is absolutely painless, without the loss of one drop of blood. Fill up the remaining cavity with bichloride of mercury gauze, then bandage. Upon removing the dressing in a few days, the trouble will be entirely cured.

If now the party so cured will wear proper shoes and stockings, there is no reason for a recurrence of the trouble. I have permanently relieved hundreds of victims in this way and never have had a single recurrence. Your patient is more grateful to you than with any other proceeding, as he leaves your office and goes to his daily occupation without being obliged to have his nail mutilated, or being subjected to unnecessary pain.

I purposely do not use Monsel's solution or nitrate of silver in the nail-groove, since both blacken and dry the tissues, while the salicylic acid softens and whitens the tissue and gives it a better appearance, at the same time making removal easier.

When the trouble is a congenital one, the side edge of the nail instead of burrowing down into the flesh will spread beyond the allotted spaces, while its edge is not free but adherent to the flesh all over.

In such a congenital case, the first thing to do is to cut away the corners of the nail and then, with a probe, push a small bit of bichloride gauze under the nail on both sides. The idea is to let the nail grow over the gauze and so to form a free side-edge, which is essential to relieve this particular condition.

The gauze should be renewed every day for about two or three weeks. Then, as in the former instance, fill the grooves with salicylic acid and white vaseline, leaving it until the skin is turned white. After removal of this macerated mass of epidermis you will have a free edge; albeit, of course, it is an artificial one. This free edge should not be removed as in the other cases, but be kept lifted up by always having some gauze burrowed underneath. Only when in time the edge grows too broad, a narrow strip must be clipped off from the tip down to the start of the nail-root.

One fact to be borne in mind is, that in this particular condition, all the surrounding flesh is abnormal and much more painful than in the other class, and for this reason often a spray of ethyl chloride is necessary to deaden the intense pain; nor is the operation here always a bloodless one; still, if this condition is deftly manipulated, the suffering may be reduced to a minimum, and no disfiguration of the nail or the toe is necessitated by a painful and needless operation.

The technic in both instances is simple and efficient, and every doctor could take care of this class of cases without any trouble to himself or his patient, while the remuneration for this kind of work often is more than the average physician gets for a confinement case. So, wake up.

The condition known as "inverted toe-nail" is quite different from the ordinary form and does not require any treatment at all, only clipping away of the lateral edges of the nail. The hardened matter under the nail presses down upon the flesh setting up an irritation giving a sensation like that of ordinary ingrowing toe-nail. Another source of error in diagnosis is the presence of small new growths in and under the nail groove. Such growths sometimes resemble veritable tumors. These can be removed also without disfiguring the nail.

According to my experience, the ideal ethyl-chloride spray apparatus is the one in which, first, the spray-tube can be stood up on its end; second, every drop of the fluid can be used; third, it is made of glass, so you can see how much has been used, and how much is left over. This makes it superior to the metal tube. It is very unpleasant, indeed, to be spraying a toe and then suddenly have the spray stop because the ethyl chloride is used up — something that can not happen when one is using a transparent apparatus.

THERAPEUTIC NOTES

LECITHIN A "BLOOD BUILDER"

According to William Bain (*Lancet*), lecithin is a valuable remedy in the treatment of anemia and debility. When used experimentally in rabbits, it causes an increase in the number of the white and red cells in the blood and in the percentage of hemoglobin. Bain thinks that its favorable action upon the nervous system is secondary to improvement in the general nutritive condition.

OBJECTIONS TO STIMULANTS IN SHOCK

Dr. R. J. Thompson, of Tucumcari, New Mexico (cf. *Journal of the Iowa State Medical Society*, December, 1912) condemns the seemingly common practice of filling a patient suffering from shock full of strychnine, nitroglycerin and large doses of morphine. Many local physicians, he says, are entirely too free in the use of heart stimulants given hypodermically, and that it is a too common practice for us to sanction the free use of whisky in these cases.

UNPOLISHED RICE AND LECITHIN IN BERIBERI

Further experiments as to the prophylaxis against beriberi have been carried on in Dutch Guinea by Moskowski (*Arch. Schiffs-u. Tropenhyg.*), who, in order to prevent the disease, ordered the eating of crushed rice prepared with boiled *katjang-idoe*, the latter for better preservation.

Moszkowski agrees with Schaumann that beriberi is caused by lack of organic phosphorus. In his opinion, because of deficiency of the phosphorus, the lactic acid formed in the muscles is not combined and lactic-acid poisoning results.

This is an interesting theory—suggesting the value of lecithin in the treatment of early stages of this disease. We suggest to subscribers who may live in the Orient, where beriberi is one of the most serious and common of diseases, that they give this remedy a trial, in connection, of course, with a diet embodying unpolished rice and, perhaps, beans. Unpolished rice is beginning to appear in the American groceries, and physicians should force the market by urging people to use no other on their tables. Anyone interested may learn about the "katjang-idoe" by applying to the Department of Agriculture.

Why can we not have some reports on the diseases of the tropics and the Orient from our far-away friends? We have many of them.

DIURETIC ACTION OF DIGITALIS

Martinet (*Presse Médicale*, October 2, 1912) declares that the diuresis induced by digitalis is the result both of a stimulating action on the heart, manifested in an increase of the pulse pressure (the difference between the systolic and diastolic pressures), and a vasodilator action on the kidneys, most clearly indicated by a diminution in the diastolic pressure. The drug is thus both indirectly and directly diuretic. Digitalis tends to increase the viscosity of the blood; this after-resorption of the edematous fluid tends automatically to check the diuresis, which might otherwise become excessive.

COCAINE IN REFLEX INFANTILE DIARRHEA

The Prescriber for last December, abstracts a paper by Fuld, in *Sémaine Médicale*, on various methods of treating diarrhea. Since in a large proportion of cases the annoying persistence of diarrhea is due to reflex irritability of the gastrointestinal tract, the author has conceived the idea of administering small doses of cocaine combined with codeine, using a 3-percent solution of cocaine hydrochloride with an equal quantity of codeine phosphate in peppermint water, 10 drops of the solution to be given in water ten minutes before each meal. For children a 1-percent solution is used, one drop being given for each year of the child's age. In his experience with the method in fifty cases, the author found that two days of this treatment usually sufficed to effect a cure.

Nevertheless, it is not free from peril. Cocaine is a dangerous habit-forming drug. Codeine is a narcotic—and children are very susceptible to narcotics. More rational, much safer, and equally satisfactory is it to clean out the intestines with aromatic calomel, checking fermentation with the sulphocarbolates, washing out the lower bowel—withholding food until the canal is tolerant.

ANTISCARLATINAL [SERUM

Zdravomysloff (noted in *The American Practitioner*, 1912, December) immunized horses against streptococci by means of streptococcic toxin and live streptococci. The serum obtained after four months' immunization was employed in severe cases of scarlet-fever. Six out of the seven patients showed marked improvement after the administration of the antitoxin.

We should hesitate to use living streptococci—chances of infection are still too great. A scarlatina-bacterin is now being marketed, for which good results are claimed. Meanwhile, do not forget calcium sulphide.

ADRENALIN FOR TYPHOID-FEVER VOMITING

Acting upon the suggestion of Sergent and others, that the suprarenal glands were inefficient in the course of infectious fevers, Dr. Khoury (cf. *The Universal Medical Record*, December, 1912) employed adrenalin in a case of typhoid fever with marked symptoms of myocarditis and arterial hypotension. At the end of two months, when the patient had been without fever for two days and the adrenalin had been omitted, obstinate vomiting set in, which resisted all ordinary means; even adrenalin by the mouth had no effect. However, after the hypodermic injections of adrenalin, twice daily, the vomiting diminished rapidly and had disappeared completely in forty-eight hours.

The author suggests that the vomiting of convalescence in typhoid fever may be due to suprarenal insufficiency and that adrenalin injections may prove an excellent means of combating this troublesome complication.

CALCIUM PERMANGANATE IN MALARIA

G. Arbour Stephens (*The Prescriber*, 1913, January) describes some interesting experiments on the effect of calcium salts on surface-tension. From these experiments he deduces the conclusion that it might be possible, by the use of calcium salts, to produce such changes in the human blood as to make it impossible for the malarial protozoon to live.

After putting this matter to the test, he found that a few malarial patients whom he put on calcium permanganate (administered in capsules) were greatly benefited, and this experience was confirmed in his further administration of the remedy. The patients received one capsule every four hours for three weeks.

Dr. Stephens says that in tropical climates this drug has the additional advantage of checking any tendency to enteritis, and that consequently it is of value if taken with water that is at all questionable.

REDUCING INCARCERATED HERNIA BY INTENSE COLD

In *The Medical World* for January, S. W. Brasfield says that he has succeeded in reducing an incarcerated gut in hernia by freezing with the ethyl-chloride spray. When trying to put the intestine back, where he fails to do so with safe taxis, he sprays the hernia until the skin freezes white, when many times the gut will slide back without any manipulation. Refrigeration by the use of salt and ice in strangulated hernia is much less convenient than by the ethyl-chloride spray.

See Dr. Brasfield's article in the January number of CLINICAL MEDICINE, page 87.

THE AGING OF ANTITOXIN

Many physicians have the idea that antitoxin deteriorates with age and that it is unsafe to use it after the "date of expiration" stamped upon the label. This, however, is not so.

As a matter of fact, diphtheria antitoxin actually improves with age. Freshly made serum is "raw," probably from the presence of various ferments. Such a serum is much more likely to cause serum-sickness or anaphylaxis than that which has been kept for a number of months. In the course of time these ferments slowly disappear, and the product becomes "mellow," as the antitoxin maker puts it. The more modern diphtheria antitoxin, which consists of a solution of the globulins, is aged artificially and the aging process is practically complete when it is made ready for the market according to the latest approved Banzhaf method.

Why, then, is the package of antitoxin marked with a "date of expiration"? It is because the strength of the product gradually diminishes. This loss of strength, or protective power, takes place most rapidly during the first year. At the end of this period there has taken place a loss of strength of perhaps 20 percent, under ordinary circumstances. In order to cover this shrinkage of strength, the manufacturer "loads" his antitoxin so that it shall be at least the strength marked upon the label after one year. For instance, a package marked 2000 units will contain 2500 units when put out, and 2000 units at the end of the year.

After the first year the loss of strength proceeds more slowly. If kept in a cool place (as it should be, of course), the shrinkage of efficiency the second year will run between 5 and 10 percent, and the third year about the same. Thus, a package marked 2000 units will contain, at the end of the second year, from 1800 to 1900 units, and at the end of the third year it will contain from 1600 to 1800 units.

The quality of the older antitoxin is absoutely unimpaired. Indeed, because it is "riper" and more "mellow," a serum two years old really is better than one three months old, although the strength will be considerably reduced. The dating required by the government is not intended to indicate the quality of the product. It is simply an evidence that it is of the full strength indicated on the label.

Dr. John F. Anderson puts the matter succinctly in the following sentences, quoted from "Hygienic Laboratory Bulletin," No. 66: "The opinion held by some physicians, that old sera or sera on which the return-dates have expired should not be used is without scientific basis, and the only reason for not using such sera would be that a larger amount would have to be given to make up for the decrease in potency. Old sera, unit for unit, are just as potent as fresh sera, and would be, perhaps, less apt to cause severe serum reactions than fresh sera."

The moral is that the physician should not lose valuable time to secure new antitoxin, when the druggist's supply is running low. Use the old—but in "dose enough," always.

VALUE OF PERTUSSIS

E. W. Saunders, Walter Johnson, T. W. White, and John Zahorsky report, in *Pediatrics* for March, 1912, their results with the use of a bacterin, prepared from Bordet's pertussis bacillus, in forty cases of whooping-cough. They arrived at the following conclusions:

1. As a prophylactic agent, they have no hesitation in recommending the pertussis vaccine. While it is true that any infection will postpone or interrupt the course of pertussis, this agent alone will absolutely prevent it. The immunity is of uncertain duration, but the injections may be repeated, and it is of the utmost importance to postpone the disease until the first two years of life are past. The failures reported by other observers must be attributed to an impotent vaccine or to insufficient dosage.
2. As a remedial agent, success depends upon the promptness of administration and the freedom of the patient from complications at the time.
3. In no case should other treatment be withheld if indicated; especially in infants, who may be spared convulsions or bronchopneumonia by the use of emetics, sedatives, and some member of the aromatic group. It is quite possible that much better results may be obtained in late cases by the use of larger doses.
4. In view of the high mortality from pertussis in young children, a systematic effort should be made to determine the duration of artificial immunity, and to keep them protected.

THE BACTERIN TREATMENT OF TYPHOID FEVER

In a meeting of the French Academy of Science (*Paris Médical*, 1912, Dec. 14, p. 59), a report was presented indicating the decided improvement obtained in thirty-seven cases of typhoid fever by the employment of antityphoid bacterins. The authors had used more particularly the bacterins of Besredka, which contain living, sensitized bacilli. They call attention to the fact that the good effect of the bacterins is more marked the earlier the inoculations are made.

The success of this treatment is also emphasized in an interesting contribution to the *Gazette des Hôpitaux* for November 30, 1912, by Louis and Combe. They have employed the remedy principally for prophylactic purposes, and present a résumé of reports from literature, according to which the experience with more than twenty thousand vaccinated persons in the course of two years has determined the absolute protective value of the method.

GLEANINGS *from* FOREIGN FIELDS

TRANSLATED BY E. M. EPSTEIN, M. D.

Sven Von Hedin and the Bible: Dr. Epstein's Last Article

EDITORIAL NOTE.—The last complete article prepared by Dr. Epstein was the short one that follows, translated from "Geistes-Kampf." Only about a week before his death he sent the manuscript to Dr. Abbott, with this little note: "My Dear Doctor Abbott: The above I thought suitable to strengthen a man's faith in God and his Christ. It did mine. Your ever grateful—Dr. Epstein." This anecdote of the great Scandinavian explorer, which throws into relief the religious faith of that remarkable man, also reveals something of the character of the man Epstein, which those of us who knew him can understand fully. Like von Hedin, he was an incessant reader of the Bible. A copy of the Great Book was always upon his desk, and he loved to pick it up whenever he had a moment's leisure. Not a day went by in which he did not take it down from its shelf, where he kept it convenient to his hand, to peruse some loved passage or settle some vexed question. If we wanted to know about anything that was referred to in the Scriptures he was our authority, and his interpretation usually threw new light upon our little problems. How appropriate, therefore, that the last written words that came from his pen for the journal that he loved so well should be a tribute to the Book that had been his faithful guide through his long and spiritually active life.

IN his travels of research into the interior of Asia the celebrated Swedish scholar, Sven von Hedin, had as his best companion his Bible. We read in his diary: "My library was not large; it consisted of the Bible, hymn-book, and a little book with the title, 'Words for the Day,' which formed a bond of union between me and mine at home."

When most of his companions and all his animals perished from thirst and he and the two servants that survived seemed to hasten to meet the same end, he writes thus: "It seemed then that most of my things were to be given up, and I therefore put together the things which I regarded as unreplaceable and indispensably necessary—my notes, and map routes, mineral specimens, sand specimens, charts, instruments, papers, as well as—my Bible and hymn-book." On a certain Sunday he writes: "Today we allowed ourselves to rest, and, as usual in a lonely morning hour, I read the sermon texts."

When he was in a time of death peril and found water unexpectedly, he confesses that the Almighty stretched out his hand over him and led him involuntarily and against his originally planned direction willingly to the place where he found water.

Sven von Hedin is therefore a new example of the fact that one can be an acknowledged scholar and scientific research-worker and at the same time a God-fearing man who holds fast to the Word of the living God.—From *Friedensbote*, in the *Geistes-Kampf*, December, 1912.

DR. EPHRAIM M. EPSTEIN

As already very briefly announced in last month's CLINICAL MEDICINE, page 187, Dr. E. M. Epstein, for many years in charge of the department of Foreign Gleanings in this journal, passed away on Sunday, January 26, at his home, 4535 North Lincoln St., this city. The funeral was held on Wednesday, January 29, and he was laid to rest in Rosehill cemetery. In addition to the private religious services, conducted at his home in the morning by Rev. A. H. W. Anderson, there were formal services in the afternoon by the Masonic fraternity, of which Dr. Epstein was a member, having attained to the highest degree conferable by this great order.

In the passing of Dr. Epstein the world loses an unusual man, one highly and broadly educated, a most unique and versatile character who, as a thinker, was far in advance of the spirit of his time, leaving his impress thereon in ways that will reach ever deeper with the passing of the years.

Dr. Epstein, in closing his memoirs, under the caption, "Why Do I Live So Long," published in 1908 in THE AMERICAN JOURNAL OF CLINICAL MEDICINE, said: "Lastly, I look for the coming of the great, strong brother, Death, without enthusiasm, but also without dread, 'Into Thine hand I would commit my spirit. Thou hast redeemed me, Jehovah, God of Truth.'—(Ps. 31 : 6.)"

DR. EPHRAIM M. EPSTEIN

Dr. Epstein was a Hebrew of the Hebrews, of the highest, most erudite and well-to-do class. He was born in Bobrusk, Russia, March 17, 1829, his family soon moving to Brest.

In his memoirs, above referred to, as evidence of his unusual mental fitness for evolutional work, he says:

"At four years of age I began to attend private school, where I learned my Hebrew alphabet, and soon my prayers, with understanding, in Hebrew, and at eight years I was installed as synagog ritual cantilating reader of the prophets and the five scrolls in Hebrew from manuscript. And as these are written without vowels and peculiar signs of cantilation it involved considerable exercise of memory, and my father was very exacting in the performance. At the marriage of Alexander, then crown prince of Russia under the reign of Emperor Nicholas I, I delivered a Hebrew ode in his honor at the grand and ancient synagog of Brest Litovsk, my parents' that-time residence, in the presence of a great audience and the Christain municipal authorities. I mention these facts to show that my health and stamina in childhood were equal to the required mental exertion for these performances.

"My studies in the Hebrew Bible and the Talmud were pursued at home with private teachers, while the study of Russian and German were carried on by stealth and secretly.

"At my seventeenth year of age I married my first cousin, this being at the behest of my paternal grandfather, who bestowed the dowries on all his grandchildren and did not want to have this wealth to leave their circle. I will say that this kind of benevolent tyranny works neither health of body nor of mind.

"After our first child was born I determined, in 1849, to go to the United States of America, landing at New York early in 1850 after a perilous voyage by sea in a damaged sailing vessel, wherein we preserved our lives in a nine-weeks' struggle with waves, hunger and thirst. I spent but a few short weeks in New York, trying to earn a living, but was glad I did not succeed, for, though never inured to manual labor (and I was then already twenty years of age), still the ideal nobility of labor was cherished by me ever since in my youth my mind became liberated from the trammels of Talmudic haughtiness which makes its devotee presume himself to be superior to the common laborer. It was indeed not so in ancient times, but it was so in Russia seventy-nine years ago. And so I crossed over to Hoboken and plunged into the country beyond to Hackensack and soon found work.

"I was well received; work in the winter was not hard, food was plenty, and time spared was occupied in learning the English language. I stopped on Squire Ackerman's place till after hay-making time. I had learned some farm work by that time and found another place with more wages, where I took care of a small country seat of about thirty acres for a family of a blind father, his wife and two kindly Christian daughters of mature age. It was the family of Judge Sherman of the Marine Court. I was here also treated very kindly and considerately.

"In New York I met a playmate of my childhood and early youth, who went to France long before I crossed over to the United States, and who a short time before me had arrived here. We used to meet on Sundays after I went to work in the country, either he coming to me or I going to him. With him I attended in the country one Sunday a Christian meeting-house, for the first time in my life. It proved for both of us the turning-point in our lives. We both joined the Christian church soon after. Friends began to increase, and there became no lack of means for me to pursue an educational career with the ultimate object of graduating as a physician; previous to which however I greatly desired to study Christian theology, and this course I was enabled to pursue in Andover (Mass.) Theological Seminary, whence I was graduated after a three-years' course, on August 17, 1856. I never regretted having given three years of the best of my life to it. As medicine relates to all physical sciences, so does theology, especially Christian theology, relate to all mental sciences, and the physician is not a loser by being a mentally trained man.

"After my graduation from the College of Physicians and Surgeons of the University of the State of New York, on October 31, 1859, I practiced medicine for a few years in Salonika and Bitoglia-Monastir, European Turkey, and then went to Vienna, to attend the clinics there. In the war of that country with Italy, in 1866, I applied for a medical commission in the Imperial Navy and was received, after passing a literary academic examination in the University Academy of Vienna.

"Being accepted, I was commissioned surgeon on board the Feuerspeier Battery, off Venice, Italy, and then on the corvet Seehund when it was present in the battle off Lyssa in the Adriatic Sea, July 20, 1866, under Vice-Admiral William Tegethoff against the Italian fleet under Admiral Persano, who had double our number of vessels and men. All the same we beat them, destroyed two of his best vessels, one of them the Ré de Italia, built in New York by General Webb, the other the frigate Palestro, and drove him away from the Austrian coast in an hour and twenty minutes. We had very few casualites. This was the first battle that was ever fought by ironclad propellers. The devotion of our men and officers to our great admiral won the day. It inspired me to write a description of the battle in English verse and I dedicated and presented it to the great admiral and man, who thanked me for it in an autograph letter, and said it reminded him of Byron's description of a sea storm in his Don Juan. I received a present of three hundred dollars from Emperor Franz Joseph for the poem.

"After the war was over I was intrusted with the supervision of a naval smallpox hospital at Pola, Dalmatia. The people of that part of Austria were generally ignorant antivaccination fanatics seventy-nine and more years ago. I had on an average sixty patients all the time, with some very severe confluent cases. After two months I was ordered on the cruising side-wheel steamer Dalmatia then plying on the Austrian Adriatic coast. I was on that duty for some months and then applied for dismissal in order to return to the United States, and was honorably discharged.

"In Vienna I fell in with some American friends who gave me letters of introduction to their friends at Leavenworth, Kansas, where I opened practice and continued there for some years.

"An old uncle who came over with me on my first trip to this country and then located in Cincinnati learned of my second arrival and began to urge my coming to that city and offered to afford me every facility to open a good practice. I accepted the offer and practiced there for nine years. In Cincinnati, April 29, 1873, I again married—this time Helena Dreyer taking my name and entering upon the duties and privileges, aye! the trials of home life—and we have had many.

"To us, in the passing years, were born Frieda, Julia, Zelda, Leo, Naomi, George, and Ruth, partaking strongly of the characteristics of their mother, twenty years my junior, whose sterling qualities have meant much to us all. In the last year of my residence at Cincinnati I met with the saddest event of my life, the death of my then only son, from my second marriage, five years old.

"I could not practice medicine any more, and I gave it up to accept a professorship in

Heidelberg College, Tiffin, Ohio. A religious disagreement with the faculty of the college, which was theological at the same time, made me sever my connections from it, and I went to Yankton of what then was Dakota Territory, and thence to Vermillion, to organize what is now South-Dakota University, whose first president I was till sectarian and political chicanery ousted me, as it did a half dozen other men from the same office. A professorship was then offered me in Bethany College, West Virginia, which I accepted and continued for a few years in that capacity.

"I then relinquished the place to begin practice in the neighboring town of West Liberty, this being in the early nineties of last century. It was here that I became acquainted with the alkaloidal method of Burggraeve, known in France and elsewhere as the dosimetric practice of medicine, and which at my suggestion is also known in this country as 'alkalometry.' This has been successfully advocated and illustrated in CLINICAL MEDICINE as well as in its predecessor, THE ALKALOIDAL CLINIC of pleasant memory. I soon became a regular contributor to THE CLINIC, and when I became disabled for further country practice in 1898, I came to Chicago on the invitation of Dr. W. C. Abbott to recuperate my health. He kindly invited me then to become a member of the editorial staff, on which I am still active at this moment as the 'Gleaner in Foreign Fields' and in other departments.

"What was, what is, there in my favor? First of all, inherited longevity. Secondly, a moderate indulgence in all the appetites of life. Thirdly, the regular and pleasing literary life I am enabled now to lead these last ten years by the appreciative kindness of my friend, Dr. W. C. Abbott, in whose great work, 'doctors for doctors and a square deal for everyone,' I am proud to have my part and to whom, as strength permits, I give unstinted service and loyalty of my heart of hearts, only regretting that my years will not permit me to see, with the profession I love, the full fruition of the principles for which he stands."

In words no more fitting than his own can I tell "The Story of Dr. Epstein." In his own words the reader will get the "high lights" of his wonderful life.

To say that he has been an essential factor in this work of ours, to which he has given the latter years of his life, with strength only measured by his physical abilities, with a mentality acute and scintillating to the day of his death, and a loyalty beyond compare, is putting great facts, treasured in memory, into mere words that but feebly express half the feeling of his coworkers and associates toward their departed friend, who in going leaves a place in life's mysterious evolvements and in our work that, as an entity, never will be filled.

W. C. ABBOTT.

Chicago, Ill.

A TRIBUTE FROM DR. WAUGH

Everybody who came in contact with Dr. Epstein loved him. Surely, he could not have had an enemy on earth, for it was not possible that kindly heart could harbor a thought of ill-will toward any human being. I look back with pleasure to many pleasant hours spent in his society, when I had the opportunity to appreciate his kindly heart, immense erudition, and keen wit.

It does not seem possible to me that he indeed has been taken from us. It seems as if I must see his gray head bending over his desk, or meet him on his crutches, passing between his home and the editorial rooms of CLINICAL MEDICINE. Here he found that haven of rest to which every aging man looks. Before casting in his lot with us he had been sore buffeted in contests with the world, especially as nature had not fitted him with a warlike disposition.

Dr. Epstein was fortunate in having the evening of his life pass among men who loved and appreciated him; relieved from financial worry and stress, surrounded by books, and busy with the literary labors he so loved, and which he felt to be useful to his fellow physicians. His death coming so swiftly and unexpectedly was, nevertheless, a fitting end for an old age, rounded out and completed as his has been.

W. F. WAUGH.

Chicago, Ill.

FROM PROFESSOR JOHN URI LLOYD

It pains me greatly to learn of the death of Dr. Epstein. He was one of the scholars of the olden time whose education in the lines of optimistic humanitarianism was boundless, and whose scholarship was of the most erudite description. He was in every wise an idealist, concerned in the best interests of humanity at large, and in his death humanity at large will suffer the loss of an earnest and enthusiastic friend.

Several years ago Dr. Epstein visited his relatives in this city, including my old friend

Dr. Julius Greyer, and called upon me at the Lloyd Library, where he continued his visits for several days. We had long known each other by reputation, but from that time I counted Dr. Epstein my personal friend, and enjoyed the privilege of corresponding with him in various lines, which included an opportunity of going over his great work in manuscript titled, if I mistake not, "A Study of Moses," a work that I trust will not be lost to the world.

Dr. Epstein was one of the gentle souls of the world, kindly and optimistic, and will long be remembered by those who have had the good fortune to know him personally. The shock of the information conveyed by your letter is one from which I cannot easily recover. May I ask that you will extend to his family my sincere regards and sympathy in their bereavement?

John Uri Lloyd.

Cincinnati, O.

A COLLEAGUE OF MANY YEARS WRITES

Eleven years ago, when the writer came to Ravenswood, he found Dr. Epstein busily working at his desk in the one room it was possible to allot to the editorial staff of The Alkaloidal Clinic in the overcrowded old frame building which then housed it. At that time Dr. Abbott, Dr. Waugh, Dr. Epstein and the writer carried the burden, and their work was made delightful by the knowledge that they were carving upon the enduring rock principles which would ensure the success of practicians yet unborn. Then Dr. Burdick assumed the editorial chair, pushing The Clinic on to still greater things; and from time to time other men came to the colors, the many, like the initial few, working heart and soul to familiarize the great army of general practicians with the superiority of positive therapeutic methods.

Though already a septuagenarian when he came from West Virginia to join Dr. Abbott, "Father Epstein," as we younger fellows affectionately called him, came regularly to his desk and accomplished an immense amount of work. Some years ago he was thrown from a street-car and painfully injured, but even when confined to his bed he insisted upon having the foreign journals brought to him, and some of his best "gleanings" were contributed during this period. As he said, "when a man is in bed he has few distractions, and a light diet conduces to clarity of mind." No better illustration of the man's general character perhaps could be offered. He *loved to work* because his wide reading and practical experience enabled him to realize most keenly the importance of his labor to his fellow men.

And Epstein was essentially a humanitarian. He hated dogmas and despised circumscribed creeds, but he kept his soul in close communion with his God and believed he could best serve Him by serving "man made in his image."

To those favored with his friendship and confidence he displayed a half-humorous, half-cynical concept of modern civilization, which revealed a close study of men, methods and things, and while ever ready to expose sham and pretense he was prone to find an excuse for the ordinary frailties of the individual. Believing firmly in hereditary influences, he would point out when some man's shortcomings were brought to his attention that the poor fellow was really to be pitied for having ancestors possessed of undesirable characteristics, and go on to point out the necessity for careful character training and "selective mating" in order to insure the happiness and welfare of the coming generations.

Deeply read, scholarly, widely traveled, broad-minded and warm-hearted, Epstein naturally was loved by and made himself essential to those with whom he labored, and he can have no better epitaph than the sincere tribute of a colleague:

"He was a wonderful man and we shall miss him sorely."

Geo. H. Candler.

Chicago, Ill.

AS I SHALL REMEMBER DR. EPSTEIN

The first time I ever saw Dr. Epstein was just about eleven years ago, when I was the editor of *The Medical Standard.* One day an old gentleman, with a patriarchal beard—but his apparent age belied by the quickness of his movements and the intense keenness of his mentality—brought into my office the manuscript of an article upon "Nutrition as Now Understood." This was Dr. Epstein. The article was printed, running through two numbers of the journal, and attracted immediate attention. I recall that a few days after the first part of the paper appeared one of the best-known investigators of the problems of nutrition in the country called me up by telephone and inquired about the author. That was the beginning of a friendship between the two men that lasted until Dr. Epstein's death. It was also the beginning of my own close, intimate relationship with the Doctor.

Two years later, when I came to Ravenswood to take an editorial position upon THE ALKALOIDAL CLINIC, I was happy to be brought into intimate association with Dr. Epstein. We became friends at once. For several years we shared the same office room, and never a day passed that we did not talk over the great problems of the Universe; and then I came to know something of the inner workings of my old friend's mind—perhaps able to look just a little beyond the threshold into his soul. Dr. Epstein's mind turned constantly to the great mysteries of life, death and immortality. He was essentially a mystic, seeing in the books that he read and in the greater book of nature many things of subtle significance which most of us, imbued with the material philosophy of the age, could not perceive; yet to him they were alive with messages from the Infinite. Next to the Bible, which he read constantly, I think his favorite author were that rare old middle-age mystic, Jacob Boehme, of whom the average twentieth century man knows nothing.

He was an idealist through and through. Modern materialism was to him anathema. It was foreign to his spirit, which was imbued with the imminence of the Divine. But he was not orthodox, as most people understand that word, and he was in no sense "behind the times."

He really lived in the library—in our editorial library and among his own books at home. He had several thousand volumes and monographs in his personal collection, and it was a rare privilege to be invited into his inner *sanctum librorum*. He had books upon every subject, his interest embracing the occult as well as modern science; including history, theology, medicine, fiction, all kinds of curiosa—in fact everything. He devoured them all. He once told me that he could read twelve languages, and he had books in nearly all these tongues. Old books he loved as men love old friends. A sure way to Dr. Epstein's heart was to give him another book—and he wanted it inscribed with the name of the donor.

Dr. Epstein had many friends, but nowhere were there those who respected more his marvelous erudition and loved him better than right here among his colleagues of the editorial staff of CLINICAL MEDICINE. We shall miss him for many a day; and we know that the readers of this journal will miss the good doctor's helpful and characteristic "Gleanings from Foreign Fields," which have been a distinctive feature of THE CLINIC for more than fifteen years. No man can replace him in this work—nor in our hearts.

A. S. BURDICK.

Chicago, Ill.

IN APPRECIATION OF DR. EPHRAIM M. EPSTEIN

When, some three years ago, the increasing demands upon the library of CLINICAL MEDICINE made it necessary to find somebody who could aid Dr. Epstein in his work as librarian and in all the manifold duties connected with that position, and when accordingly Dr. Abbott invited me to assume charge with Dr. Epstein, I first became personally acquainted with him, although I had, of course, known of him through his writings. Since that time I have been associated with him in almost daily contact, not only in the library but also in the capacity of his family physician; and the increasing tribulations of his great age made the latter association a particularly close one, although Doctor Epstein was unusually vigorous, if we consider that he had passed his eightieth year of life.

What impressed me most in him was the immense amount of information which he had stored away in his brain, and which covered a great variety of subjects. Not only was he excellently versed in the ancient languages—Hebrew, Greek, Latin, some Arabic—but he was equally at home in the speech of the moderns, reading and speaking Russian, German, English, French, to a less degree Italian and Spanish, and having at least a working-knowledge of some of the Slavonic languages. And what is more, he made constant use of these linguistic attainments, and his reading was as international as to languages as it was practically unlimited as to scope, and, I might say, as to amount. Doctor Epstein was always reading, unless he was writing. I have seen him, even when confined to his house by illness, at all hours of the day and night, lying on his bed, with the light arranged suitable and a copy of some book or journal in his hands.

Another point that was unusual, perhaps, and that was a decided characteristic of the man, was his thoroughness. He would not let a word pass by without understanding it fully, and without tracing it back in its derivation to the original source, and then he was greatly distressed when he found that the present-day meaning of a term had strayed widely from the intrinsic meaning of the underlying root-word.

Personally, Doctor Epstein was a good and faithful friend, invariable in his kindliness and his appreciation of any service, however slight, that might be rendered him, always ready to be of assistance in those things in which his great erudition enabled him to aid others, always willing to explain, always anxious to learn; he managed to keep track of the modern acquirements of medical investigations and even to appreciate the difficult problems of immunology; in fact, this was his last work. The day before he died he had finished a rather ambitious article on the subject of immunity which he had adapted from a German work.

I shall miss the old Doctor's daily visits to the library. I shall miss his questions and his discussions, and I shall miss his kindly and sympathetic interest in what I am doing. One thing I regret particularly is that all the knowledge which he possessed must be lost, although it is stored up in the books which he left. It is a pity that men who have acquired a store of learning cannot transmit it or bequeath it to their successors. My close association with Doctor Epstein for the short space of three years has taught me much, and the memory of this friendship, though brief, will ever remain green.

H. J. Achard.

Chicago, Ill.

HE DIED RICH

We who were daily associated with Dr. E. M. Epstein can not express the debt we owe to him. We can but stand beside his grave and in the silence feel what speech can never tell. Now that he is gone, we realize more and more what a quiet, simple, unostentatious force he was. He was rich, and radiated his wealth to all with whom he came into intimate contact; for, more than almost any man I ever knew, he had acquired a wealth of golden thoughts, golden wisdom and golden deeds, and, above all, a golden character. And character is property. Such a character as Dr. Epstein had is a noble and valuable possession. Such a character is an estate in the general good-will and respect of men.

He carried inside of him that only which can make men truly rich and strong. His wealth was that of the heart and mind. He possessed that kind of wealth that stirred his mentality with a passion for expansion; that stimulated his hunger for learning and brought him into close communion with the great and the grand of all ages; a wealth that brought him into contact with nature and with nature's God, so that he felt the divine touch of science, and formed intimate relations with the entire universe. In many languages he sought the thoughts of men, and for himself he solved the problem of the world. He learned during his long and active life to infuse into his vocation and surroundings, no matter how humble they were at times, that high sense of duty and of beauty and harmony which transforms the common into the uncommon, lifts the artisan into the artist, and makes even dulling drudgery to seem divine.

Many times during the past year I have met Doctor Epstein as he slowly and apparently painfully dragged his weary body to his work, yet always with a happy, almost beatific expression of countenance; and I felt like saying with Schopenhauer, "The conclusion we come to is that the man whom nature has endowed with intellectual wealth is the happiest."

Dr. Epstein had passed on life's highway the stone that marks the allotted span, but, "being weary, for a moment he lay down by the wayside and, using his burden for a pillow, fell into that dreamless sleep that kisses down his eyelids still."

He has reached the place where success and failure are the same. But his character survives; his simple goodness lives.

So he died rich! And Nature lovingly above his grave in benediction holds her outstretched hands.

The lamp in the study is low,
  The unfinished task is deserted;
The fervor of labor, the glow
  Of high thoughts departed—
For his footsteps we tenderly yearn;
  Oh! when will the student return?

The voice that inspired us is still;
  At the fountain the pitcher lies broken;
The waters of life cannot fill
  Its bright urn, nor be spoken
The words from a heart o'erspent
  In the service to others lent.

Is he reading now in God's scroll
  How thro' sorrow his Lord refineth?
Doth new knowledge reveal to his soul
  How the maker designeth?
Let us think of our loss, not his own,
  And the seed in Christ's vineyard sown.

George F. Butler.

Chicago, Ill.

MISCELLANEOUS ARTICLES

What is the Truth About Vaccination? A Discussion

DOES SCIENCE TEACH VACCINATION?

USUALLY your editorials are full of good sense, but when you tackle vaccination (page 4, January CLINICAL MEDICINE), like Issachar you crouch down under the burden. Not to be prolix, let me take one point only, i. e., that science teaches vaccination. As a matter of fact it does not, and every scientist who has taken a look has damned it; for example, Alexander von Humbolt, Herbert Spencer, Alfred Russell Wallace—the fellow-worker with Darwin—these will do as mere samples of many.

Another point is that real science cannot endorse the practice because of the insurmountable obstacle that it does not know what vaccine virus is, as Dr. William H. Welch of the Johns Hopkins recently admitted. This is further shown by the fact that apparently no one knows what it is, not even the vaccine farmers, for did not the Agricultural Department trace out the fact a few years ago that vaccine stock was the cause of the million-dollar epidemic of foot-and-mouth disease?

Also, if science endorses the practice, how does it account for the near 18,000 deaths (United States Government report), and no one knows how many cases, in compulsory vaccinated and revaccinated Japan, *à la* Germany? Do not take this ancient practice, which was originally the worship of a Hindu god, on faith alone, but investigate it in the light of science.

E. P. ANSHUTZ.

Philadelphia, Pa.

[Dr. Anshutz is editor of *The Homeopathic Envoy*.—ED.]

HAS NOT PRACTICED VACCINATION FOR FORTY YEARS

I have been a reader of your journal since its inception. I am a believer in and a practitioner of scientific medication, as advocated by you, and it has added pleasure to an arduous life. But occasionally you put yourself out of the way to rap some of us who dare differ with you about matters that are not germaine to your line of work.

Your article on page 4 of the January issue, entitled, "Vaccination and the Unreasoners," is a case in point. The most surprising thing is that men of your breadth of view should be deceived by the fallacious arguments that are supposed to prove the value of vaccination; next, that you should ignore the mass of evidence constantly accumulating, showing how injurious the practice of the rite is to many; next, that you should fail to recognize the fact that sanitation has been the main factor in the practical annihilation of smallpox. I protest that the last and final argument is not with the vaccinators—assertions to the contrary notwithstanding. Most of us who do not believe in the rite have practiced it, suffered from it, and, awake to its dangers, have arrived at our viewpoint by following along logical lines.

It is not becoming in you to dub those of us who differ with you in this matter as "unreasoning," as "fools," or even as "fanatics." If you ever have occasion to stand by the bedside of your own little ones and see them go down to the borderland of death by vaccination, and by your own hand, as I have done, it will take something more persuasive than being called a fool to make you feel that you do not know its dangers, or to cause you to aid, either directly or indirectly, in forcing this disgusting and dangerous rite upon others. If you must call us names, for lack of argument, we have the consolation of knowing that there are a host of noble men and women who are with us, and who show a normal mentality in every other direction, even to you.

I practiced vaccination for five years of my early medical life, and I did it conscientiously. I have refused to do it for forty years in order that I might live on good terms with myself. I have suffered financial loss, been called a fool and a fanatic, but I have not slain any of the innocent, and I am content. The time will come when you will realize that the "great white plague," which you are aiding to lessen, will never be eradicated until one of its main causes, vaccination, has been made an offense against the law.

It is no more than right that my protest, incomplete as it may be, should be given equal publicity with "Vaccination and the Unreasoners."

E. M. Ripley.

Unionville, Conn.

VACCINATION: DR. SLEE REPLIES

In replying to the communications of Doctors Anshutz and Ripley, who have expressed their views concerning the protective value of vaccination as a preventive measure for smallpox, I do so with a full realization of the unquestioned fact that every man has the right to formulate and hold such views as he may see fit.

I am answering them, not with any desire or intention to influence in any way the opinions of these gentlemen, but to show others that their deductions are not correct and therefore are untenable. To simplify this process and to save space, I shall take up each letter by itself, answering separately the statements made therein.

Dr. Anshutz says: "Not to be prolix, let me take one point only, i. e., that science teaches vaccination. As a matter of fact it does not, and every scientist who has taken a look has damned it."

This statement is incorrect. Dr. Anshutz *might* with propriety say that certain scientists have damned it. He has mentioned, specifically, Alexander Von Humboldt, Herbert Spencer, and Alfred Russell Wallace. Why go to the graveyard for illustrations? and pray tell me what are, or were, the special qualifications that rendered these men capable of forming judgments of special significance in connection with this subject, at this or any other time?

Alexander Von Humboldt died in 1859, before any of our modern biologic discoveries were made. In spite of his fine scientific work, were he alive today there is not a curator or laboratory worker in any of our natural-history museums but could give him "cards and spades" in the scientific knowledge of this age, and could tell him of inventions and discoveries of which he, in his day, had no conception. That he was a brilliant mining engineer and traveler in the latter part of the eighteenth century is an unquestioned fact; but of what use would his mining knowledge be under present conditions, with our mines over two miles deep, with electrical machinery, with artificial ventilation, working through quicksands, in caissons, under compressed air, and with the thousands of other changed conditions that now pertain to the branches in which he was then a specialist? Should he return to life today, he would be an ignoramus in the branches in which he was once an expert. This being true, of how much value would his views be upon topics that are entirely outside of his own sphere?

Herbert Spencer! Who was he? Born in 1820; educated as a civil engineer; then taking up literature; then philosophy. Later he attacked problems of government, then sociology, then physiology. Was he a trained physician? No, he was a mere dabbler in medicine, really less conversant with medical biology than thousands of educated men now living.

Alfred Russell Wallace last. Surveyor, architect, journalist and traveler; then going into natural history. What special qualifications or training had he or has he to pass upon purely medical topics? None. You say he was a coworker and contemporary of Darwin. True. Darwin was a wonderful man; so was Wallace. We are glad to give them credit for the work which their own discoveries and investigations qualified them for. But that did not make them physicians—not even homeopathists. Did it?

Are we without living scientists at this day? Specifically, I may mention the fact that Surgeon General Geo. M. Torney, of the United States Army; and Surgeon General Rupert Blue, of the United States Public Health Service, are both men of high scientific attainments. In their various Services, they have hundreds of highly trained, conscientious, clean-thinking, and observing officers. The officers of these Services, controlling so much of importance to the sanitary welfare of this nation, are unanimous in their belief in the efficacy of vaccination as a protective measure, and this belief is based, not upon the hearsay evidence of mining engineers, architects, journalists—or "cranks"—but upon personal observation and embracing thousands of cases of smallpox in hundreds of epidemics of that disease.

I could fill this page with the names of men who stand preeminent in the sciences of this and other countries who unhesitatingly and unquestionably accept the value of this agent, but the following letters will suffice:

WAR DEPARTMENT

Office of the Surgeon General,
Washington, Feb. 4, 1913.

Dr. Richard Slee, Swiftwater, Pa.

Dear Sir: In reply to your letter asking for a brief statement concerning my opinion of the value of vaccination in the Army, I am pleased to state as follows:

I think that no one who will consider with an open mind the sanitary records of the United States Army can remain for a moment in doubt of the vast and indispensable protective value of vaccination.

This country has been for so long a time partially protected by vaccination that this fact is not borne in on us with its full weight until we come in contact with nations or communities where, through lack of efficient sanitary service, vaccination has been as a rule neglected, as was the case with the Spanish possessions under our control at the time of the Spanish War. We found smallpox epidemic and very fatal in Porto Rico, and the military authorities enforced a thorough vaccination throughout the Island. The result was the absolute extinguishment of the disease, and no death occurred from this disease in the next ten years thereafter. This great change was not due to the sudden establishment of an efficient sanitary service in Porto Rico, because no provision was made for a health department in the hastily prepared organic law under which the Porto Rican civil government was organized at the end of the military occupation, nor had an efficient health department been created in that Island until last year.

In Cuba, also, prior to the American occupation, smallpox was widespread and very fatal. The American Government took control of the Island on January 1, 1899, and in the 13 years since then there have been only seven deaths from smallpox in Havana, and this is due to a prompt and general vaccination of the population and enforcement of this precaution thereafter. In the thirteen years before that date, however, 5355 persons had died of smallpox in the city of Havana alone.

The same is true in the Philippines, where smallpox was everywhere common before the American occupation and where now it is much less prevalent than in the United States. Without vaccination, it is believed that the American occupation of the Philippines and the suppression of the insurrection would have been a military impossibility.

Although the stations of the American Army are scattered over the United States, Porto Rico, Panama, Alaska, the Hawaiian Islands, and the Philippine Islands, and in this way brought frequently in contact with infection of smallpox, its protection by vaccination is such that the disease causes no concern to the sanitary authorities, which is shown by the fact that in the last ten years there have been in the entire Army scattered over this immense area only twenty-two deaths from this disease, which is an annual rate of three in every hundred thousand.

George M. Torney,
Surgeon General, U. S. Army.
Washington, D. C.

TREASURY DEPARTMENT
Bureau of the Public Health Service
Office of the Surgeon General,
February 4, 1913.

Dr. Richard Slee, Swiftwater, Pa.

Dear Sir: I am in receipt of your letter of the 1st instant, and in response to the request contained therein there are forwarded herewith Reprints Nos. 23, 57, and 60, from the Public Health Reports, and copy of Public Health Bulletin No. 52. In these publications will be found the opinion of this Service in regard to the prophylactic value of vaccination, arguments in favor of its use, and a synopsis of legislative provisions relative to this subject.

By direction of the Surgeon-General.

Respectfully,
J. W. Kerr,
Assistant Surgeon General.

The reports mentioned above in the letter of the Surgeon General of the Marine Hospital Service are too voluminous for incorporaton in this article, and I will simply abstract the first page of a reprint from *Public Health Reports*, No. 57, entitled "Smallpox and Vaccination in the Philippine Islands," by Victor G. Heiser, Passed Assistant Surgeon, United States Public Health and Marine Hospital Service, Chief Quarantine Officer and Director of Health for the Philippine Islands; and Robert Oleson, Assistant Surgeon, United States Public Health and Marine Hospital Service.

At probably no time in the world's history has the efficiency of vaccination as a preventive for smallpox been so conclusively and effectively demonstrated as in the Philippine Islands since American occupation.

The evidence of its value is incontestible. [Italics mine.—R. S.]

During Spanish times it was necessary each year during the dry season to erect in Manila a large temporary hospital to which the many hundreds of victims of smallpox could be taken. The great majority of them died.

During the past five years not one person has died in Manila from smallpox who had been successfully vaccinated during the five previous years; nor has anyone died of smallpox in Manila since June, 1909.

Since 1907, when the systematic vaccination was completed of the six Provinces, near Manila, which have an approximate population of 1,000,000 and which from time immemorial had an annual average mortality from smallpox of at least 6000 persons, not one person has died of smallpox who had been successfully vaccinated, and only a few scattering cases have occurred. During the past two years some deaths have been reported, *but careful investigation shows that not one death took place in a vaccinated person.* [Italics mine.—R. S.]

In May, 1904, the United States Army transport Liscum left Manila with 26 cabin passengers, 170 steerage passengers, 16 officers, and 80 members of crew, or a total of 292 souls on board. During the first week smallpox broke out aboard the vessel in an *unvaccinated child in the steerage.* An examination of the personnel on board *showed that 3 members had never been vaccinated. Within a* *period of two weeks these unvaccinated persons were stricken with the disease and not one of the remaining persons contracted it.* [Italics mine.—R. S.]

During October, 1910, information was received that in the remote town of Baler, with a population of 2417, situated on the east coast of Luzon, smallpox had broken out among the unvaccinated children. There were 100 cases and 27 people had already died. An average of 35 new cases was occurring daily. Through the efforts of the Hon. Manuel Quezon, Delegate from the Philippine Islands to the Congress of the United States, the people were induced to submit to vaccination. The number of new infections decreased rapidly, and 14 days after the last person in that town had been vaccinated, about October 20, no further cases of smallpox occurred.

In view of such reports, from such unquestioned, high scientific authority, need we go back a century for opinions on this important topic?

Continuing, Dr. Anshutz says: "Another point is that real science cannot endorse the practice because of the insurmountable obstacle, that it does not know what vaccine virus is."

This is readily answered by the example that it is only ten or twelve years ago that real science of an order which is supposed to be beyond dispute, namely, the science of mathematics, demonstrated without question the alleged fact that the conquest of the air by a heavier than air machine was an impossibility. These scientists proved conclusively that the corelation between the weight necessary to obtain the power and support of man in the medium which we call air was such that it would be impossible for man ever to fly. In spite of the fact that the science of mathematics could not accept it, the flying-machine is here.

It is true that we do not know what the active agent of vaccinia is, nor do we know by what method the contagion is conveyed. But this does not in the least detract from the accurate observations and experiences of fully competent observers that vaccine virus affords protection. It is only within a year or so that the specific infectious agent of syphilis has been discovered, and yet it would be absurd to say that the medical profession for the last hundred years or more has been unanimously mistaken in resorting to the administration of mercury and the iodides. We had no conception in the least as to the cause of this horrible disease, but we did know from practical experience how to treat its various phases, and the discovery of the causative agent, while most interesting and valuable, has not in any wise affected the methods of treatment in vogue previous to this discovery. And the value of cinchona (and quinine) in malaria was recognized and it was used successfully for a century or more before Laveran discovered the plasmodium.

The next question is: "Did not the Agricultural Department trace out the fact a few years ago that vaccine stock was the cause of the million-dollar epidemic of foot-and-mouth disease?"

Assuredly it did. But—foot-and-mouth disease is a disease confined to cattle. There is a question if it has *ever* been conveyed to human beings. While foot-and-mouth disease unquestionably did cause a tremendous money loss to the country at large, this is injecting into the discussion a matter with which we are not now concerned. The subject under discussion is the value of vaccination as a protective against human smallpox. The calves that are used and killed after the production of vaccine are also a loss to the country, in that their flesh ceases to be of value for food; but this is also an economic loss which we are not now considering.

Dr. Anshutz's next question is: "Also, if science endorses the practice, how does it account for the nearly 18,000 deaths (United States Government report), and no one knows how many cases, in compulsory vaccinated and revaccinated Japan, *à la* Germany?"

This same argument was presented several years ago before the Connecticut Legislature in an endeavor to secure the repeal of the compulsory-vaccination laws of that state. I answered that statement at the time, as I now answer it, by quoting from page 148 of the Public Health and Marine Hospital Service Reports for the year 1908. This report, under the heading of "Smallpox," reads as follows: "This disease here is always present in sporadic form in the rural districts, but during December there began in Kobe the most fatal and severe epidemic of many years. Most of the people attacked and *nearly all of the deaths were in the non-vaccinated people or those who had not been revaccinated, and the epidemic was a costly and sad lesson upon the danger and folly of neglecting the rigid enforcement at all times of vaccination laws.* Official statistics show a total to the end of May of 17,401 cases, with 5763 deaths of this disease." [Italics mine.]

Official statistics are only of value when correctly quoted and when there is no evidence of deliberate intent to misquote or leave unquoted such portions of said statistics as are opposed to our views. The statement is made that 18,000 deaths, according to

United States Government report, occurred in compulsory vaccinated and revaccinated Japan. *The U. S. Government Report calls specific attention to the fact that vaccination was not enforced and that the majority of these cases were among people who had not been vaccinated.*

Let me turn now to Dr. Ripley's protest. He states, "that the most surprising thing is that men of your breadth of view should be deceived by the fallacious arguments tht are supposed to prove the value of vaccination."

In answer, I say that we are not deceived by fallacious arguments. My own views are not based on arguments at all, but upon personal observation. For more than twenty years I have been a student and investigator of the subject of smallpox, and engaged in the commercial production of vaccine virus. During this period I have examined or attended hundreds of cases of smallpox. *In my experience, I have never seen a case of smallpox in a patient who presented evidence of a successful vaccination.* I have been successfully vaccinated a number of times, and have not the slightest fear of smallpox. I have slept in the same bed and been isolated and confined, during the whole course of the disease, in the same room with smallpox patients.

Dr. Ripley next states, that "We ignore the mass of evidence constantly accumulating, showing how injurious the practice of the rite is to many."

Again I find no necessity for accepting anybody's *views* in this matter. With almost twenty years of close daily contact with vaccine virus, I am saturated with it, and so are the members of my family. During these years we have of necessity employed many people, and not an employee has escaped vaccination. I have vaccinated thousands of patients, many of them children who have since grown to adult life, and who have been more or less constantly under my observation, and in not a single instance in my experience have there been any unpleasant results. Pure vaccine virus is absolutely harmless and innocuous, and we have no more fear of rubbing it into a cut on our hands than we do of so much distilled water.

Dr. Ripley's next statement is that "We fail to recognize that sanitation has been the main factor in the practical annihilation of smallpox."

The crediting to general sanitation of the diminution of smallpox is a fallacy. It is astonishing that men of keen minds resort to such a subterfuge. What is sanitation, this word we so juggle with, and with which we endeavor to cover all hygienic sins?

Sanitation, properly defined, is the application and enforcement of known and proved preventive measures, each measure directed specifically against some disease or some condition. Sanitation does not become most effective until we know either the specific cause of said disease or have proven by experience that certain remedial or preventive measures are effective. There is no such thing as a "prevent-all" sanitation. Sanitation is a vast accumulation of many efforts, and is of minimal value unless intelligently aimed in each instance at a specific condition or disease.

We all recall vividly the yellow-fever scourge which devastated the southern and eastern portions of this country. Did sanitation of itself avail? Were not rigid "shot-gun" quarantines established, traffic of all kinds suspended, sections of the country put under martial law, and every then-known method of sanitary control established? Did all of these efforts lessen in one iota the prevalence and extension of the disease? No, not until cold weather killed the mosquito did the scourge cease.

Yellow fever today does not worry us. The discovery of the mosquito as the host and vehicle of transmission of the infectious agent of yellow fever led to the easy adoption of intelligent sanitary measures directed specifically against this carrier. As a result, yellow fever has been stamped out with little trouble. But, without the destruction of the mosquito, one might live in a marble palace, with the most up-to-date sewers and drains and with perfect water supplies. He might, in fact. have every possible condition of proper sanitation according to the very latest known methods, and yet he might become infected with yellow fever and die, just as he would were he living under the most unhygienic surroundings in a filthy hut.

Has sanitation reduced the ravages of measles, scarlet fever, and whooping-cough? No, not in the least. As an accurate example of the value of sanitation, we cannot do better than present the statistics of the Uuited States Army, abstracted from the Report of the Surgeon General for the year ending June 30, 1912. I have selected these because they are fair and accurate. The men comprising the United States Army are selected from all walks of life and from all sections of the country. They are stationed, as the Surgeon General remarks, in the United States, the Philippines, Hawaiian Islands, Alaska, and Panama. Therefore, we have men who are more exposed to the contagion of smallpox, by far, owing to their frequent change of station, than are the majority of the people of this country, who are confined very closely to their home locality. To offset this exposure of the troops, we have the fact that their posts are under military discipline and rule, and it is practicable to secure the enforcement and carrying out of sanitary measures to a much more satisfactory degree than it is possible to do in the average small town or village, under untrained civilians.

During the decade ending in 1910, with a mean number of men of 677,250, we have the following reports:

DISEASE	NO. OF CASES
Smallpox	340
Typhoid fever	3,843
Measles	6,367
Mumps	18,170
Malarial fevers	92,966
Venereal diseases	119,728

For the year 1911, with the mean annual strength of 73,023 men, we have:

DISEASE	NO. OF CASES
Smallpox	5
Typhoid fever	57
Mumps	1.052
Measles	1,258
Malaria	1,832
Venereal diseases	13,468

With this report before us, will those who are opposed to vaccination against smallpox, and who state that such vaccination is without protective power, and that the diminution of smallpox is due entirely to sanitary measures, state why, if sanitary measures are of avail, we had only five cases of smallpox during the year 1911 in the United States Army, and 1258 cases of measles? If sanitary measures alone are of avail, why should we have 13,000 cases of venereal diseases? If we believe in contagion, that is the carrying of infectious agents by contact, we should expect, upon the introduction and enforcement of the socalled sanitary measures, that venereal diseases would die out in the same ratio as smallpox has.

You will say, of course, that the exposure to venereal diseases is very direct and knowingly accepted, whereas the exposure to smallpox is not as direct and is unknowingly acquired. This is very true, I will grant, but the fact remains that we must decide this question: Is sanitation as commonly used of itself of value in the eradication of any contagious disease, unless measures are specifically applied against the disease under consideration? I have been engaged in sanitary work all of my professional life, but with the exception of the protective inoculation by means of vaccination, I know of no sanitary measure that can be directed against smallpox, that is not at the same time in general terms directed against malaria, measles, mumps, typhoid, and venereal diseases. Therefore, if our arguments will hold water at all, the ratio should be the same.

You will probably say: "Well, if you ignore the beneficial results of sanitation as regards smallpox, and if vaccination is a protection against smallpox, why in the world should you have 340 cases in the United States Army during a period of ten years?"

In the first place, the most rabid believer in the prophylactic value of vaccination does not claim that the immunity afforded is absolute. There are certain human organizations which it is impossible to immunize thoroughly. We find it in our laboratory animals as well. It is their misfortune that they do not make antibodies, and never as far as we know, or by any known methods, can a perfect immunity be established in these cases.

Then there is another factor, and that is that the antivaccination propaganda has undoubtedly had a deterring effect upon many people, and in some instances this has reached out and touched even the American soldier. On page 102 of the Report of the Surgeon General of the United States Army, for the year 1911, under the heading "Smallpox" is found: "Two cases of smallpox occurred among the American troops. There was no death from variola nor has there been a death from this cause since 1906. Both cases occurred at Warwick Barracks, Cebu, P. I., and both men confessed to the surgeon, Lieut. Col. Woodruff, that though they had been vaccinated many times, *they had always scraped off the wound as soon as dismissed from observation, and the last, a severe case, had actually sucked the place to be sure the vaccination would not be successful.* It seems probable that the occurence of smallpox in the Army is to a considerable extent due to intentional avoidance of vaccination as a result of acceptance of the reckless misstatements of antivaccination propagandists." [Italics mine.]

It seems to me this evidence should appeal to any reasonable man. Two cases only occurring in the Army in a year in the Philippine Islands, with their vast mixed population, with smallpox rife in the Chinese, Japanese, and other nearby ports, and with smallpox more or less constant among the natives! Think of it—only among the American troops, and in both patients although vaccinated, deliberate interference with the process of immunization resulted in a non-take, and also in the contraction of smallpox!

As another example of the protective power of vaccination, your attention is called to Page 249 of the Report of the Surgeon General of the United States Army, for the year 1899, where we read as follows:

> Paragraph 846 provided that before recruits are forwarded from a rendezvous to regiments the commanding officer will cause the date and result of last vaccination to be entered on the descriptive and assignment card. Under these regulations, which have been faithfully carried out, the soldiers of the United States Army have received efficient protection from smallpox. Although this disease has prevailed in many parts of the country during the past *fifteen years—1883 to 1897*—and frequently with epidemic violence among the civil population in the immediate vicinity of military posts, there occurred only *20 scattered cases*, of which four were fatal, in a mean strength of *25,000 men*. [Italics mine.]
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> At the outbreak of the Spanish-American War, a large volunteer force was hastily organized, and the regiments of the Regular Army were as hastily recruited up to their strength on a war footing. The Army was in a few weeks increased from 28,000 to 280,000 men. Under these conditions it is probable that the requirements of the regulations as to vaccination were not as carefully fulfilled as in time of peace. It will be observed that the necessity for vaccination is left by the regulation to the discretion of the medical officer. In May, 1898, smallpox prevailed to a considerable extent among the colored people in many parts of the Southern states. It was known to be common also in Cuba and Porto Rico. The medical officers who were present at the muster of the regiments raised in the Eastern states, and who expected to be camped in the South and to see active service in Cuba and Porto Rico were probably more careful in carrying out the provisions of paragraph 843, Army Regulations, than the medical officers of the Western regiments, who did not have in anticipation an immediate exposure to infection. At all events few cases occurred among the troops in Cuba or Porto Rico. The regiment which occupied the Holguin district of Cuba during the stamping out of the disease, which at the time was prevailing extensively among the native population, *did not have a single case, although its members were constantly exposed to infection during the aggregation of the sick in extemporized post-houses and the disinfection or destruction by fire of vacated houses.* [Italics mine.]

It certainly is a most curious thing that regiments of green troops could go into the Holguin district, that they could round up a town where there were over two thousand virulent cases of smallpox, and that these raw boys, taken from the streets of New York and from stores, offices, farms, and other civil occupations, should have been put into this district, nursed the sick, buried the dead, cleaned up the streets and houses, and yet not a single case of smallpox contagion occurred among them. Sanitation cannot, by any stretch of imagination, be credited with the immunity which these troops enjoyed.

Smallpox was stamped out of the island of Cuba before any attempt was made or could be made for the introduction of sanitation. It is only to be regretted that protective measures, of the same value as vaccination against smallpox, could not have been at the same time introduced among the troops, and have saved the thousands of lives of the poor fellows who succumbed to typhoid fever, yellow fever, and other diseases. During this campaign *smallpox was absolutely the only contagious and infectious disease against which our troops were protected, and it was the only one of those prevailing at that time in the islands to which our troops did not succumb by the hundreds.*

In the island of Porto Rico, smallpox has been for centuries endemic, and between December 15, 1898, and February 11, 1899, 554 cases of smallpox were reported from 150 towns and villages. The disease existed in every direction and was a constant menace to the people and the material interests of the island. General vaccination of the population was inaugurated under Major Hoff, Medical Corps, United States Army, probably the most important undertaking of this kind that has ever been attempted. As a result of this work, within a few months 786,290 people were vaccinated in the island of Porto Rico without a single fatality, and smallpox immediately ceased to exist. This was before any attempted improvements in general sanitary conditions could be undertaken.

In a recent conversation with Major Ashford, Medical Corps, United States Army, now stationed in Porto Rico, and the man who has done such wonderful work in connection with the eradication of hookworm disease in that island, he told me about the marvelous results which these poor, uneducated natives have witnessed as a result of American intervention and the introduction of vaccination. These poor people were so impressed with its beneficial results, that today, upon the occurrence of an outbreak of any description, they literally flock to the various dispensaries and medical stations, and beg for the "Americano injection." They believe that all that it is necessary for the American physician or army surgeon so do is to "inject" them and they will recover, and you cannot persuade them otherwise because they have seen the results with their own eyes.

Last year, when the bubonic plague made its appearance in Porto Rico and a few cases occurred, the population clamored for vaccination against plague and over twenty thousand of the inhabitants received such protection—not only willingly received it but *asked* for it. They are much wiser in their day and generation than many of us whose social advantages have been far greater and whose brains are assumed to possess considerable reasoning power.

Dr. Ripley also says: "If you ever have occasion to stand by the bedside of your own little ones, and see them go down to the borderland of death by vaccination, and by your own hand, as I have done, it will take something more persuasive than being called a fool to make you feel that you do not know its dangers."

My answer to this is, that had you stood by the bedside of your dear ones, who unfortunately were without the protective value of vaccination, and nursed them through this loathsome disease, perhaps seen them die, unrecognizable masses of corruption, you would never again question its value. As a medical student, I was repeatedly vaccinated and felt perfectly safe during the epidemic of smallpox of some twenty years ago. I went away on a short visit to the country with a classmate who had not been successfully vaccinated. A few days later this young man developed smallpox, and I nursed him through the disease in a solitary country house without any conveniences, and under great hardships. The boy recovered, though for years thereafter his health was exceedingly poor.

Some two years later my marriage occurred, and I was then unaware of the fact that my wife and her sister had not been successfully vaccinated. Within three months after entering out home, my wife developed smallpox, and her sister, who was visiting us at the same time, likewise contracted the disease which I had unwittingly conveyed to them. No one can ever say to me that I do not appreciate what it is to stand by the bedside of those near and dear to me, and anyone who has seen or taken care of a case of smallpox can easily realize the heartbreaking anxiety of such an infliction at such a time. In my home at the same time was a young boy cousin who had been successfully vaccinated, and a German serving-maid who had recently arrived in this country and bore the fresh evidence of the emigration officials' vaccination upon her arm. It is needless to say that while we were all quarantined, and lived together in the same house, those who were vaccinated were not inconvenienced in the very least. Again, I am not quoting the views of others, but giving you my own observations.

You say that forty-five years ago you commenced the practice of vaccination, and that forty years ago you discontinued it. Forty-five years! Nearly half a century! In that time the world really has moved. There have been just two or three marvelous discoveries in medicine and the general sciences within that time. I might ask Dr. Ripley if it has occurred to him that forty-five years ago the principles and practice of asepsis and antisepsis were unknown. Does it occur to him that the unfortunate experience which he may have had at that time was in all probability due to an infection quite apart from the disease of cowpox, and that this infection *he* probably conveyed directly to his child by means of his own instruments or his own hands, or even through the vaccine virus?

Forty-five years ago our hospital treatment meant death in very many serious injuries, through hospital gangrene. Have our surgeons ceased to operate because of the terrible mortality which was *then* so universal? No, they have kept pace with the times and adopted the methods which have eliminated this scourge. Because of the appalling death-rate at that time from child-bed fever, has the obstetrician declined to continue the practice of his profession? No, he has adopted the vast improvements and discoveries that have been made along the line of cleanliness and prevention, and now he attends his labor cases with the reasonable expectation of a successful termination in every instance.

If one is so inclined, he may readily dissect any problem and make the facts fit his purpose. A few years ago a notorious infidel selected from the Bible certain passages and published them in pamphlet form. He was arrested on the streets of New York for the distribution of obscene matter—in fact, it was very obscene. Yet, this man could not be convicted because, without a single change in a word or punctuation-mark, he had simply lifted from the Bible certain portions which satisfied his evil intent. If any professional man wishes to base his present knowledge upon experience gained forty-five years ago, who can object; but is it consistent or right that he sould accept certain improvements in our science, and disregard others? He should keep fully abreast of the times in all.

I have purposely avoided repeating the wonderful statistics of Europe in proof of the efficiency of vaccination. The United States leads the world in scientific endeavor and discovery. Her trained medical men are without superiors anywhere, and I feel that my gray matter is still plastic enough to accept their statements and conclusions of this very minute, and not dig up "osseous mementos of another age now lying voiceless on my surgery stage" to bolster up untenable theories.

RICHARD SLEE.

Swiftwater, Pa.

ROTATION OF THE CHILD'S HEAD

It was with considerable interest, and pleasure as well, that I read the article on occiput-posterior positions by Dr. Rittenhouse in the January number of CLINICAL MEDICINE. However, I wish the Doctor would be a little more definite in his instruction as to the method of rotating the child's head. In my own experience, I have found grasping the face, after diagnosing the position, the most feasible procedure. I have never attempted rotation by means of the forceps. I should be pleased to learn whether Dr. Rittenhouse agrees with me regarding the "hold."

J. H. FORMAN.

New York, N. Y.

[We referred Dr. Forman's inquiry to Dr. Rittenhouse, who very kindly wrote in answer:

"My manipulation of a right occipito-posterior position, in detail, is as follows: The woman lies lengthwise in the bed, with her right side near the edge. If preferred, she may be placed across the bed, with hips close to the edge, as in application of the forceps. The child's head is lying flexed, the occiput to the mother's right sacroiliac synchondrosis. Under complete anesthesia, I introduce my right hand into the vagina—very slowly so as not to lacerate the perineum. I slip the palmar aspect of my fingers up over the child's right jaw until the tip of a finger touches the child's right shoulder. The thumb now is over the crown of the head, which is lifted enough to make the maneuver possible. The head is then rotated a half circle, bringing the occiput to the L. O. A. position, the tip of the finger carrying the shoulder along.

"The direction of rotation might be either way, but I find it most convenient to make it in the same direction in which the hands of the clock move, that is, the occiput moves first forward along the woman's right hip, then to the left past the symphysis pubis. I have not tried passing the hand directly over the face. The side of the face seems to give more room."

Everyone should read Dr. Rittenhouse's article on the shortening of labor, which appears in this issue.—ED.]

WHISPERING IN THE SICK-ROOM

If there is any one thing more objectionable than another in the sick-room it is whispering or speaking in half-audible tones. It is well to cultivate a smooth, plain, natural voice and to speak so that every word can be distinctly heard and understood by the patient, thus saving him the strain of listening; for most sick people try to catch every word that may be said about themselves, and whispering creates an air of mystery that arouses curiosity. The patient very naturally concludes it has to do with his condition and, so, sometimes gets worked up to such a pitch of frenzied and overwrought imagination that a relapse or an unfavorable change of some kind is the result.

A half-audible conversation is still worse than the low whisper, as illustrated by the case of a woman of whom I know, who was slightly improved after a long and dangerous illness but still very weak physically and mentally. The woman heard her physician tell the nurse in an undertone—that is, as she interpreted what little she half-heard—"Our patient is sinking, I have no hope." In reality, the doctor had said, "Our patient, I'm thinking, is better, I have more hope." To her distorted mind, the conversation had been low in order to save her the shock of hearing her fate; and from that time on she did sink lower and lower, until death released her. She believed what she heard as she understood it, and later told the nurse there was no use trying longer to deceive her, as she had heard what the doctor had said. Explanations could not convince her to the contrary.

Even if there should be no unpleasant or fatal results, it is annoying and perplexing to have anything transpiring in the sick-room that the patient about half-hears and is left to conjecture the rest. It tends to shake the confidence in the physician. It is wisdom to tell the truth, while not necessary to tell everything that comes to mind. To be truthful and honest, will hold the confidence of the patient. If you are never caught prevaricating, they will believe in you and have courage to obey your orders, no matter how difficult and unreasonable it may seem to them.

Well people who are of a suspicious disposition sometimes come near a nervous collapse by whispered conversation in their presence, fearing they are the topic; then what may we expect of one weak in body and mind, believing he is the subject of the conversation and racking his enfeebled brain to fathom the mysteries of what is being said.

Speaking in undertones in the presence of other people not included in the conversation is a disturbing element anywhere, and how much more so in the sick-room, where the rustling of a paper or even the low, almost imperceptible buzzing of a fly may prevent sleep that otherwise might be obtained. It would be unwise to administer opiates to induce sleep when it was possible to remove the cause of disturbance. Watch the conditions, and if there are any whisperers in the room turn them out, no matter how good friends they may be.

C. M. H. Wright.

Poplar Grove, Ill.

PRACTICAL POINTERS FROM PRACTICE

In puerpural eclampsia try venesection and you will need very little medicine.

In slow, tedious cases of labor have your patient get on her knees in a properly prepared place near the bed and you will soon discover that her pains are more effective. Occasionally I complete delivery in this way. The pains in the back are not so severe.

I believe a nervous woman will do much better in an upright position. Don't be careless about your patient who is depending on you for treatment and counsel preparatory to confinement. See that her bowels and kidneys are in active condition, or you may have a case of eclampsia.

For severe pleurisy draw a blister over the painful area with Spanish-fly plaster and you will never regret it. Your patient will soon be able to draw a long breath.

In severe neuralgic pains or sciatica try dry-cupping over the pain; also paint over the nerve with iodine, and inject about 15 drops of chloroform near the nerve.

For cerebrospinal meningitis paint over the spine, from one end to the other, with tincture of iodine, two inches wide.

In typhoid fever use high enemas, with a colon-tube, of kerosene and warm water and note the immediate fall of temperature. Repeat every other day. Give plenty of the sulphocarbolate intestinal antiseptic tablets. The fever won't last nearly so long.

Give aconitine "to effect" in tonsillitis and you will materially lessen the severity of the attack.

If you are so fortunate as to have some money, invest it in good real estate, which is a good way to increase your income. Circulars soliciting investment in mining stock and nearly all other get-rich-quick schemes make good wrapping paper.

Doctors can collect their accounts better than any agency. Your debtors live close to you. Go after them in a friendly, but positive, way.

J. W. Dixon.

Hartsville, Ill.

APPLICATION FOR BARBERS' ITCH

The comparatively few instances of barbers'-itch (trychophytosis barbæ) that have come under my observation yielded readily to the following treatment: Thoroughly wash the affected area with good soap and dry. Then apply a mixture of equal parts of alcohol and solution of peroxide of hydrogen to which has been added bichloride of mercury, in the proportion of 4 grains to the ounce. The hydrogen peroxide seems to me to help carry the more powerful antiseptic into the infected areas about the hair-follicles.

C. E. Quinn.

Kokomo, Ind.

[Before making the application it is usually good practice to pull out the diseased hairs over the nodular areas with a special epilation forceps. Dr. Quinn's lotion "listens" like a mighty good one. Can anyone improve upon it? Citrine ointment (nitrate of mercury ointment) often acts nicely—though it generally requires reducing more or less with lanolin or lard.—Ed.]

WHAT REBELLION MEANS IN MEXICO

[The letter which follows was received by The Abbott Alkaloidal Company some weeks ago, before the Diaz rebellion broke out. It is from an American physician practicing in Mexico. We print it because it gives a glimpse of the terrible suffering which the unhappy disturbances in that country have entailed. We withhold the doctor's name, for palpable reasons.—Ed.]

Your letter of the 18th to hand. As yet I have not received the package but expect it will come later on. The reason I did not get the package the other time you sent it was that my home in Oregpe was robbed and blown up by the rebels and I myself was caught out in the hills, my horse and saddle taken from me, and I was three days in the mountains without food or water. I came near going under. I lost everything I possessed—clothes, horse, instruments, drugs, and, most terrible of all, my wife was murdered. I have been almost on the verge of insanity since that horrible of day August 28.

——.

——, Mexico.

GOITER OR GRAVES'S DISEASE: WHICH? THE TREATMENT

During several summers of late years my attention has been directed to the relative frequency of large necks in young women who are residents of a village in northern New York. When examined, the enlargement is found to be due to parenchymatous goiter. The thyroid gland is not extremely vascular. Occasionally the eyes are staring, but not noticeably prominent. The skin is pale. The menses are irregular. Nervousness is marked. Intermittent flushing appears upon the neck and face. The affection occurs sometimes with an apparent cause; sometimes without one.

The etiology of these sporadic, or endemic, cases of goiter is difficult to determine. It may be the water, although this does not seem probable, because it is very abundant, comes from a distant spring in the mountains, and, according to analysis, is of exceptional purity. The region itself is very healthful, with mountains on either side and facing a large lake.

One woman, with whose case I am familiar, has either a form of Graves's disease or else myxedema. A former patient, male adult who died about two years ago, had a pronounced soft goiter, but otherwise enjoyed good health.

Two girls at puberty, whom I have especially watched, and whom I placed upon iodide of iron, hydriodic acid, iodine, and tannin—believing for a time that they had simple goiter—apparently were benefited; but the size of their necks did not notably diminish. Then, through reading a circular containing commendations from prominent medical men in Germany, I was led to make use, in these patients, of arsenoferratose. After two months' treatment, the decreased size of their necks and their changed appearance and behavior, which both showed great improvement, impressed me very much.

I have not, hitherto, seen as good and rapid effects produced by any other treatment I have tried or observed in similar cases. I hope that the combined use of arsenic and iron in the preparation referred to, or another equally good, may be effective in a disease or diseases hitherto obscure as to nature and origin.

Beverley Robinson.

New York City.

WORMS, OBSTETRIC WORK, AND OTHER THINGS AS SEEN IN MEXICO

I have been reading The American Journal of Clinical Medicine for several years, and I feel that there are many doctors more qualified to write articles than I, but I have greatly benefited by the journal and if I can help any I am only too glad to do so.

I read some time ago of someone who was asking for the age of the youngest baby in whom roundworms had been found. I was called to see a baby who was having spasms. It was 8 months old. After checking the spasms, I gave a worm remover (Barron's formula). The next morning the husband brought me six worms the baby had passed in the night; the largest was seven inches long. I should like to know how old that worm was.

Some of Dr. Todd's patients

In the July (1912) number, the paper on "Obstetrical Practice in Korea" reminds me of a case here last week. A Korean man (there are about 200 Koreans here) came and said something about his baby. He could not speak English or Spanish, yet I knew it was something about baby, so I followed him home and found the baby had been born about four hours before. All was well, so after a clean-up I gave instructions how to keep clean and for the mother to stay in bed the proper period.

In the evening a little boy came to ask me to call again. I went over, thinking something had gone wrong with the woman; but to my surprise I found her up getting supper and the father in bed with a malarial chill. I finally persuaded her to go to bed, and I thought I made it clear for her to stay there; so I gave the man some medicine and went home. Next morning (no, I wasn't surprised, for I refused to be surprised any more) the woman walked into my office and said her head hurt. She had walked about three blocks to get to my office. Doctor, I should like to see you try to explain something to a Korean who does not understand any language you speak.

Doctor Stewart says she found the cord tied to an old shoe. I have found it several times tied to the mother's leg. Still, I have had only one case of sepsis in the past two years, and for the cure of that I give credit to the little granules of calcium sulphide.

In the July number, Doctor Rose speaks of a pocket-case for hypodermic tablets. The editor has added a list, and I am surprised to find, or rather not to find, one that my case always contains is not mentioned, namely hyoscine-morphine-cactin. I always use hyoscine-morphine-cactin as a general anesthetic, and it is useful for other things, but you are well aware of that.

I enclose a photograph of my morning clinic during the busy season.

E. B. Todd.

Santa Lucrecia, Vera Cruz, Mexico.

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[How could we have omitted the hyoscine-morphine combination? It is indispensable, indeed.—Ed.]

CICUTINE FOR SPINAL PAINS. SUGAR FOR FEEBLE LABOR-PAINS

I use cicutine, and usually combine it with macrotoid for nearly all those nagging and annoying pains of spinal origin. Three cases in which I am using it in today's work are these: (1) Paralysis agitans, with shooting pains in shoulder and arm; (2) agonizing pain in the back and down the legs, due to active Pott's disease, where morphine has almost no effect (the patient can fairly "eat" morphine!); (3) sprain of the ligaments and muscles of the lumbar spine, with irritation of the roots of the sciatic nerve. In all similar troubles the combination of cicutine and macrotoid seems worth remembering.

Here is something else—not original with me, but new to me. For those contraction-pains of labor when they get weak and fail to advance the child's head, a concentrated solution of ordinary sugar—a teaspoonful every five minutes—beats quinine ten to one. And why shouldn't it? It is converted directly into energy.

H. L. Harley.

Pleasantville, N. J.

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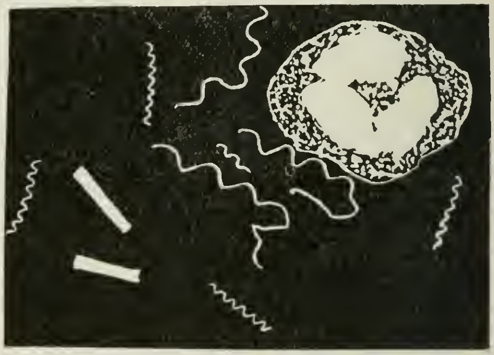
[Readers will remember the note in the October number (p. 1032) telling of the use the French make of sugar for promoting labor. Who of the "family" has tried sugar as an oxytocic?—Ed.]

THE TREPONEMA PALLIDUM

In response to a number of requests, a drawing of the treponema pallidum, as it appears in the ink preparations, is submitted herewith—it was impossible to get good photomicrographs.

The treponema is smaller and more delicate than the mouth-spirochete. Says Stitt: "It is characterized by its very geometric regularity in the spirals, which are deeply cut, and in focussing up and down continue in focus (like a corkscrew)." Jordan has described the turns in the treponema as "close and regular"; and to this I have repeatedly called attention since 1910, when I reported the use of the ink-method as one of the most accurate means of distinguishing this microorganism.


The Treponema Pallidum with Other Spirochetes

I have said so much concerning the appearance of this parasite, in other medical articles and in my book on "Laboratory Methods, with Special Reference to the Needs of the General Practitioner" that I do not feel like taking further space here. The practitioner will gain much more by the study of actual preparations than by reference to drawings, although this crude diagram may give him a start in the right direction.

B. G. R. Williams.

Paris, Ill.

OUR LETTER FROM LONDON

The present aspect of the Insurance Act muddle is hardly promising. While it is stated that there are now a sufficient number of medical men consenting to serve throughout the country, to meet the needs of the insured, they are so unevenly distributed that in some places each insurance doctor has from 3000 to 5000 insured persons to look after, while in others there are only a few hundreds to each practitioner. Complaints of the service are growing and more than one inquest has been held in which disclosures tend to rouse considerable misgiving.

In one case in London a patient was seen twice by an insurance doctor and given medicine without any examination at all. He died in three days of strangulated gangrenous femoral hernia. In his defense at the inquest the doctor showed, to the satisfaction of the coroner and jury, that his time was so taken up with the clerical work involved in the public service that he had no time to attend to his patients, and was in fact losing all his private practice.

Other medical men complain bitterly of the exacting nature of the returns that have to be made in view of the class of practice that has to be done. Patients also are complaining of lack of attendance, and private practitioners who have refused to go on the panel tell me they are getting many insured patients who, having tried in vain to get attention from the panel-doctors, prefer to let their privileges under the act slide and pay for medical attendance on their own account. The insurance committees are trying to stop this in some instances by refusing to accept the necessary certificates for claiming sick-pay from any but panel-doctors. I feel sure that these evils will multiply to an alarming extent, and that an amending act will speedily become necessary in the directions that the medical profession have been standing for all through. But the bitter animosity that has been aroused in the medical profession will take a long time to subside.

According to the Paris correspondent of the *Lancet*, Dr. Louis Renon, in a paper before the French Society for the Scientific Study of Tuberculosis, spoke very highly of the use, either separately or in combination of peronin, thebaine, narceine, papaverine, and helenin, to allay the phthisical cough. Thebaine and helenin he considered indispensable. The best results, in Dr. Renon's experience, were obtained with peronin and thebaine, one centigram of each, helenin two centigrams. His method was to give two pills combined as above, with ten centigrams of sugar of milk, twice daily at intervals of five hours or less; but it seems not unlikely that the requisite number of separate granules given together or in alternation would prove equally effective. [Peronin is a synthetic morphine derivative, benzyl-morphine hydrochloride, resembling dionin, which latter is ethyl-morphine hydrochloride. Thebaine, narceine, and papaverine are three of the rarer alkaloids of opium, but all known for many years; they present no distinctive advantages. Helenin is a camphor obtained from elecampaine. It is a remedy of much merit and should be used more than it is in pulmonary affections.—Ed.]

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A very rare accident is reported in *The Australian Medical Gazette*, of November 23, 1912, by Dr. Thomas Fiaschi of the Sydney Hospital. A galvanized iron fence was blown down by the wind and struck a boy, age ten, above the crest of the left ilium. On examination a bony projection of the left sacroiliac synchrondrosis was noted, which was accompanied by crepitus on movement and severe pain when the left lower extremity was manipulated, although the movements of the hip-joint were unimpeded. There were no signs of injury to any of the pelvic organs. Under the x-ray, separation was observed at both the symphysis and the left sarcroiliac synchrondrosis, the bone appearing to be half an inch higher than normal in front and an inch behind.

The treatment consisted in fixing the pelvis under an anesthetic and holding the lower limbs apart while Dr. Fiaschi manipulated the displaced bone downward into position. A double spica plaster bandage with a strong pelvic band was then applied. While some displacement remained the boy did well and was able to walk with only a slight limp.

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There is a danger in the airing of medical opinions in public. At the meeting of the West Riding Nurses' Association recently, Sir

Beckeley Moquihan, the well-known surgeon, strongly urged that no milk should be consumed before it was cooked. Nothing, he said, could be further from the truth than that milk is robbed of its virtues by boiling. Dr. Kaye, medical officer of health for the West Riding (Yorksline), on the other hand did not care two pins about boiling milk, provided it came from a good, healthy cow. As *The Westminster Gazette* remarked—not very originally—"Each authority has, of course, a right to his opinion, but how in the circumstances is the layman to decide?"

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A curious death by electricity happened recently in London. A gentleman fifty-two years of age was having an electric bath in an institution to which he had for some time been accustomed to resort for that purpose. After remaining ten minutes in an electric-light bath in which the temperature was worked up to 123 degrees, he was put into a cooling bath and a current equivalent to ten volts in the water, which should give a current of not more than two volts through the body, was passed. After six minutes he suddenly gave a shout and the attendant found him dead. The current was at once switched off and artificial respiration was practiced, but without avail. Presumably the guide-lamp on the switchboard had become crosscircuited, for it had gone out. In that case the unfortunate man received the full current from the main—about 240 volts. No defect could be found in the bath itself. This unfortunate occurrence suggests a serious danger that may lurk in the electric bath when charged from the street-mains.

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In the Bradshaw lecture, delivered recently before the Royal College of Physicians of London, Dr. David B. Lees, consulting physician to St. Mary's Hospital, said that in the minds of the majority of the profession the question of the proper treatment of pulmonary tuberculosis seemed to be summed up in the one word "sanatorium," to which some added also "tuberculin." While not decrying either, but admitting that what was included in the term sanatorium-treatment placed the patient under the most favorable circumstances for fighting his battle with the invading bacilli, it does not include any organized attack on the bacilli themselves. He made a strong plea for the scientific principle of the inhalation of antiseptic substances, and added:

"Medicine is both a science and an art; both must be cultivated with equal care and accuracy . . . . For the art to ignore the science is stupid; for the science to neglect the art is suicidal. The medical science which has any real claim to the name cannot be confined to the laboratory and its products; it must be constantly in touch with an ever increasing accuracy of clinical investigation. The results of treatment which claim to be 'scientific' must be tested, not simply by the assertion of the patient that he is better (have we not all heard of the spes phthisica?), but by diminution of pyrexia, of cough and of sputum by increase in weight, and by careful observation and record of the physical signs."

To this end he showed a tabulation of 70 cases in which the subjects were treated by the continuous (day and night) inhalation of creosote, carbolic acid, and iodine dissolved in ether, alcohol, and chloroform; showing in each case the gain in weight at the end of three weeks and the total gain, the effect on the cough and sputum and the physical signs, and the result as to permanent capacity for work. There were 48 complete recoveries and 3 probably complete, 10 patients incompletely cured, 2 the final result of which is not known, and 7 died (one from apoplexy after recovery).

Dr. Lees's method is as follows: Yeo's inhaler is used with the following antiseptic solution; the inhaler being worn day and night except at mealtimes: Creosoti, drs. 2; acidi carbolici, drs. 2; tinct. iodi, dr. 1; spir. aetheris, dr. 1; spir. chloroformi, drs. 2. At the beginning, rest in bed is essential. Disturbances of the alimentary tract must receive appropriate treatment. A sufficiency of easily digested food, and malted milk mixed in scalded milk have proved invaluable. Attention to the hygiene of the oral cavity and teeth, antiseptic sprays for unhealthy conditions of the fauces; a spray of cocaine, eucalyptus, and parolein [liquid petrolatum?] to remove nasal obstruction. The total prohibition of smoking.

Dr. Lees gave full credit to the work of his predecessors and contemporaries in antiseptic inhalation, making special mention of the work of Dr. Beverley Robinson, of New York.

"M."

London, England.

SPARTEINE SULPHATE. CRATÆGUS

No books or works on practice or any other factor has been as much benefit to me in my work as THE ALKALOIDAL CLINIC, now THE AMERICAN JOURNAL OF CLINICAL MEDICINE. Each number contains *something* that not only is useful, but which I make use of.

Instance: your article on sparteine sulphate in the January number.

By the way, I've seen some wonderful results from tincture of cratægus oxyacanthus in cardiac dyspnea. What about its alkaloid? I. E. BURNETTE.

Danville, Ill.

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[Thank you, doctor, for your words of commendation. They are appreciated, and, what's better, they help keep us right "up to the mark."

Cratægus is an interesting remedy. Very little is to be found in the usual reference books regarding it, but there is an abundance of evidence that it has value as a cardiac tonic. An alkaloid, cratægine, has been isolated, but thus far has not been studied enough to warrant any dogmatic statements as to its value or its special clinical field. We are interested, and purpose to follow the matter up.

In a later letter Dr. Burnette writes: "I find cratægus most useful in dyspnea of cardiac or renal origin, in irregular but *rapid* heart action—while digitalis is indicated when the heart is irregular and slow. Boericke says in his 'Manual' that cratægus is useful in chronic heart disease, with extreme weakness; in very feeble and irregular heart action; in general anasarca; and when there are irregular pulse and breathing. It is also said to be of value in insomnia from heart disease, and in arteriosclerosis. Some of my colleagues do not get as good results as I do with it, and so condemn it. I find it most useful with old people, giving 10- or 15-minim doses of the tincture every three or four hours."

Doubtless many other physicians who read CLINICAL MEDICINE have had experience with cratægus. Who will report either successes or failures? Let's see if we cannot outline a logical place for this remedy as compared with digitalin, adonidin, cactin, and other cardiac remedies.—ED.]

SEVEN IMPORTANT EDITORIALS

We wish especially to call attention to a series of editorials, begun in this issue of CLINICAL MEDICINE with a paper upon the general subject of autointoxication. (See the first editorial.) Succeeding this, will follow editorials upon "Elimination," "Infection," "Nutrition," "Vasomotor Disorders," "Rest"—including sleep and pain—and "Vitality." These editorials are to be written by Dr. Waugh and will be of such a practical and helpful character, of such assured benefit to every reader of CLINICAL MEDICINE, that we urge you to watch for them from month to month and to read them closely. Keep them in mind. They will help as well as interest you.

BRUCINE AND BABIES

In the last September number of THE AMERICAN JOURNAL OF CLINICAL MEDICINE you have a delightful article on brucine. I have been with you *ab initio* and learned to handle this companion principle of strychnine way back in the 18's. One great reason for this was that I could make it do its work. To illustrate:

A druggist once said to me that he didn't think much of phenolphthalein because he couldn't make it do as recommended. What had he to do with making drugs act? That is the work of the physician. But I said, "I can make it do just what it is recommended to do." In other words, I have learned to handle it. Again, it appears to me that some drugs will act kindly and efficiently for me, when my neighboring physician can't get results with them; they seem to be kind o' brotherly, "chumming" with you, while the other fellow can't get a thing out of them. I believe it. You are not called upon to answer. So I make phenolphthalein answer, and I also make brucine answer.

Brucine and I are partners in the fight for the "babies." See that "b"? It stand for both, "brucine" and "babies." See two of those "b's" in "babies," and "brucine" has one "too." [Ouch!—ED.] It is good for them. A long time ago I gave it to the babies because I was beat by strychnine, brucine's half-brother. See, those "b's" again? They are talismanic. I say I was beat by strychnine. So I took up the milder alkaloid and said over it the conjurer's formula of "b's" (" 'b' is for babies, and 'b' is for brucine") and gave it to them. A teaspoonful dissolved in water was given at a dose, and the little ones vomited it up right then and there, and I should have had to knock their little toots out of their jaws to get another dose down them. Fine, wasn't it?

"What's the trouble?" The baby looked at me as if he would say, "Taste that vile stuff yourself, doctor." And so I did, and I declare, brethren, I wouldn't take it myself; but I sweetened the solution to taste, colored it with a little carmine, and, behold, Master Babe drank the brucine nicely. And it has become the prince of babies' tonics with me.

Now, this is no joke, not one word of it. It's solemn truth, sweetened with a little fun.

I don't use strychnine with babies and old people, but I do use brucine.

You quote Wintzenried as saying that "no symptoms follow its administration by mouth." That won't do. If so, it is worthless as dirt and our time is worse than wasted in writing about it. No symptoms, no effect on the human economy. Then why give it? Why is this so? Because it is excreted as fast as absorbed. Granted this, and that may be the case with any drug. But as it goes through our physiology like a steel ball from a Mauser rifle it gets in its work. Mercy! but isn't that ball excreted as fast as absorbed? But how about the symptoms?

Again, how about the prince of tonics? How about the "b's"? No such "prince" and no such a "tonic." If there are no symptoms produced, excuse us. We feel that we have seen symptoms as the babies brighten into life and the first blush of the morn comes to their wan, faded cheeks and their little hands are extended for the tempting morsel that the glad mother has prepared to satisfy an appetite that this great brucine has brought about.

There may be much in the preparation of the drug that you are using. We have never used any other than standard granules, and we have had delightful success with it.

M. G. Price.

Mosheim, Tenn.

SKIN-CANCER AND A CANCER PASTE

I want to say a few words, through the columns of your great journal, about epithelioma of the skin. For the past two years I have been treating these little pests with the Bougard paste and have had most excellent results. I have given the subject considerable thought, and have learned much since I began to study the disease.

I shall not go into a thorough discussion of the subject of skin epithelioma, since many good practical articles have appeared in the journals and in recent works on diseases of the skin. I take it that the readers of The American Journal of Clinical Medicine are reading these articles and books.

It has been my experience that we should regard as suspicious any chronic sore appearing on the parts of the face appearing within imaginary lines drawn as follows: From the outer edges of the eyebrows on the sides, the upper borders of the ears above, and the angles of the mouth and the lobes of the ears below. When I see a sore situated within the lines designated I feel pretty safe in diagnosing it as one of skin-cancer. Epitheliomata appearing within this area as a rule are less destructive than in other locations.

These growths are easily treated by the regular practitioner at home, and I think we should keep our patients from going to the skin-cancer quack. The quacks have been taking these patients away from us.

Personally, I have had the very best of success. My druggist makes up for me a supply of the paste and I keep it on hand. The paste should be made by an experienced pharmacist, since it takes some time and much care to prepare it properly.

Here is the formula I use:

Wheat flour	oz. 1-2
Starch	ozs. 1 1-2
Arsenous acid	grs. 4
Mercuric sulphide (red)	grs. 20
Ammonium chloride	grs. 20
Mercuric chloride	grs. 2
Zinc chloride (crystals)	drs. 4
Hot water	oz. 1

The first six ingredients are thoroughly mixed. The zinc chloride is dissolved in the water and then the two mixtures are rubbed up together, *secundum artem.*

Before applying the paste the sore should be gently curetted, cleaning off all secretions or pus. If there is any tendency to bleed, which is usually the case, the bleeding must be checked before the plaster is applied, or the oozing blood will wash away the paste. I always apply a little adrenalin on a small piece of cotton, making gentle pressure.

The bleeding checked, I spread the paste on a small piece of cloth, being careful to cover the sore only. The thickness of the paste is governed by the thickness or elevation of the sore above the surrounding skin. With a spatula I work the paste up in a saturated solution of cocaine just as it is applied. The plaster applied, a strip of adhesive plaster is cut to cover and protect the dressing. The paste is allowed to remain for thirty-six to forty-eight hours. I sometimes put on a second plaster if I think the first did not reach the bottom.

The after-treatment is simple: The "cancer" will drop out within from six to eight days. Then the wound should be washed with a simple antiseptic wash every day for a few days, when the whole thing will fill in and heal up. It should be treated as any other granulating sore until the skin covers the place. As an application I use half a dram of balsam of Peru to enough lanolin to make a smooth salve. The patient should be advised not to rub any of the plaster into his eyes. Sometimes the eye nearest to the growth will be swollen, but this does not amount to anything.

All the patients I have treated in this manner have asked me about the likelihood of pain. I desire to say that the cancer quacks generally use a salve that is very painful. The last patient I treated was an old man who had a cancer removed by a quack some years ago, and he told me the agony was something fearful. In contrast, he said the paste I used did not give him one moment's pain. I have yet to see the first person who has suffered severely under this treatment.

These patients are peculiar. They know quite a good deal about these cancers and are constantly reminded of their affliction by its persistency and the tendency of the sore to heal up or scab over, only to break down, bleed, and scab over again. Usually they read all they can find on cancer and talk to every quack in their reach about it, mostly getting an unfavorable prognosis.

I don't see why these sufferers cannot be treated by the medical profession for a fairly good fee. I usually charge from $15.00 to $25.00, being governed by the ability of the patient to pay.

I trust that I have been able to make myself clear in this little article. I shall be glad to answer any inquiry from any member of the "family" on any point that I am not plain on, or to receive any suggestion on this subject.

Joseph W. Gregory.

Cisco, Tex.

[Our readers will, of course, remember Dr. Tiffens' articles upon the same subject, which appeared in Clinical Medicine some months ago. Better look them up. I am sure we all appreciate Dr. Gregory's kindness in developing this important subject. We should all be students.—Ed.]

DIABETES MELLITUS

I am undertaking an exhaustive research into the pathology, etiology, and dietotherapy of diabetes mellitus. I am very anxious to hear from every physician in the United States who has a case under treatment or who has had any experience in the treatment of this malady. Von Noorden says "the best treatment for the diabetic is the *food* containing the *greatest* amount of *starch* which the patient can bear without harm." If any physician who reads this has a similar or a contrary experience and would take the trouble to write me, I should esteem it a special privilege to hear from him, if only by postal card.

William E. Fitch.

New York City, 355 W. 145th St.

MY TREATMENT FOR AUTOTOXEMIA

I am using the term autotoxemia as a general one to cover such other terms as acidemia, gouty diathesis, lithemia, uricacidemia, etc., and to cover a multitude of sins against self.

The subjects of it, whether belonging to the class known as high livers or not, are overlivers with lazy livers, since without exception they overeat and, according to my observation, are what I will call bile obstructionists; and bile obstruction means, among other things, the locking up of many poisons that otherwise would leave the system. Locking the bile-ducts is locking the intestinal tract.

The three great fundamentals in stopping this state of things and reinstating the patient is to move the bile, stop fermentation, and remove poisonous products already formed.

To move the bile, really nothing beats bilein. Give calomel and bilein in combination for a day or two, then follow along with bilein straight for some time, giving one or two hours after meals.

For the second indication, to stop fermentation, nothing beats calcium creosote, a combination of lime with creosote that admits of administering large doses of creosote without disturbing the stomach—doses large enough to act as a thorough disinfectant in the gastrointestinal tract (20 to 25 grains of pure beechwood creosote at a time and given every three hours). The calcium combination accomplishes this, and it is a happy one, since the alkali effect is what we need here and thus secured is not harmful the same as large dosage with sodium bicarbonate and some other alkalis. The interests of these two little giants are mutual, since the calcium fortifies and guards the creosote, and the creosote returns the favor for the calcium. Two more harmonious agents were never placed together. So calcium creosote ably fulfils the second indication.

The third—removing the poisonous products already formed—is no less ably met by saline laxative. And my advice is to keep it on hand.

To sum up: Bilein to move the bile; saline laxative to clean the house; calcium creosote to keep it clean. This proves good enough for the patient, and so it is good enough for me.

Under this treatment hardened arteries and what follows in their train are not to be feared, if the door is locked before the horse is stolen!

It is not always we can simmer down so close to a routine thing as this with three remedies.

A. P. Reed.

Naples, Me.

MEDICAL LANGUAGE

The editor's remarks anent my criticism of the new method of spelling adopted by American medical journals (January, p. 77) are very important to me and I shall thank you very much if you will publish this, my reply.

The language of medicine is the result of its historical development. It evidently bears the unmistakable and, perhaps, indelible impress of the vestiges of these laborious, and not always salutary, influences. In the same way as almost the entirety of our occidental civilization has grown upon the soil of Græco-Roman antiquity, the chief constituent parts of the linguistic treasure of natural philosophy is contained within the confines of the classic languages.

The writings of Hippocrates, Aristoteles, and Galenos, as well as of Celsus, Plinius, and Vegetius are, and will remain for all scientists, the basis and test for correctness of language and for purity of Greek and Latin terms in the domain of natural philosophy.

It is by this means that these sciences still bear today the stamp of intercommunity, simplicity, and internationality, and this fact makes it an indispensable duty for every physician and natural philosopher to acquire a knowledge of these two languages.

Without a knowledge of etymology and the laws of word construction, a linguistic expression will not be retained in the memory; it possesses neither sense nor form, its relations and differentiations are unrecognizable and obscure, throwing the door wide open to arbitrary misconceptions and linguistic malformations.

Onomatology furnishes the real instruments for the operation of the mind. It is important that these instruments should be of the best; and it is, indeed, working in the interest of science, for the progress of science, when we exert ourselves to improve our onomatology.

The logic of science essentially adheres to scientific language. Science can not teach anything that is confessedly unscientific.

In science we have to distinguish three things: The series of facts which constitute the science, the ideas which recall the facts, and the words to express the ideas. The word has to develop the idea, the idea has to embrace the fact. Since the words preserve the ideas and transmit them, perfection in science is impossible without perfection in language.

However true the facts may be, however correct the ideas developed by facts, only wrong impressions will be transmitted so long as the expressions by which they are communicated are not exact.

These are some of the principles laid down in my writings, and they have been adopted now by others. In three countries—one of them is, *Deo gratias!* America—I have been appointed associate editor to medical dictionaries. Preparing my work of exposing all that is incorrect, unscientific, I examined a number of the popular dictionaries now in use, and for your readers' amusement I beg to give a little anthology of ridiculous terms that I have found.

Thanatopsie (a new word for necropsy or necroscopy), from *thanatos*, death, and *opsis*, the view. This is a typical case of a word coming by means of a lexicon. It is true, artists have painted death a skeleton with a scythe and hourglass, but in reality no mortal has ever seen death. The words post-mortem examination and autopsy are not as exact as necropsy or necroscopy; autopsy might suggest looking into a mirror.

Orchis, genitive *orcheos* (accent on the first syllable), is testicle; *orchis* (accent on the last syllable), genitive *orchidos* (accent on the second syllable), is a plant. The two are often confounded in our dictionaries.

The tendency to shorten, to concentrate medical terms, of which is so much spoken, is by no means adhered to. Ugly hybrids of great length are invented to take the place of pure and short classical names. For instance: sudonesis (half Latin, half Greek), instead of the good Greek hidrosis; stricturotome (half Latin, half Greek), instead of the good Greek stenotome; sinusitis (half Latin, half Greek), instead of the good Greek antrity; scaputalgia (also hybrid), instead of omalgia—and this is an exceptionally horrid example, because the correct and short Greek word is well known in the literature.

I could give an endless number of such examples, but will confine myself to one which is especially characteristic: cellulitis, which I noticed on the formulary for death-certificates. I wrote to our board of health, calling attention to the fact that these certificates should be serious documents and not contain such a funny word as cellulitis. It is a hybrid word, but even translated into Greek cyttaritis it would be obscure, because its meaning is supposed to be inflammation of the cellular tissue, and not inflammation of cell or cells. The Germans call it quite correctly *zellgewebsentzuendung*.

When we Americanize our technical terms, we entirely ignore the fundamental reason for the selection of the Greek and Latin vocabulary as the basis of scientific nomenclature. Medical science is international (not national); its specific terms should be comprehensible at sight, not only by those of the nationality in whose tongue any given medical communication is couched, but by all foreign medical men also. Germans cannot fail to understand, by anemia, inflation; by anemic, windy; by anesthesia, nudity or without clothes. Those who adopt the method of dropping the diphthongs because the French have adopted it demonstrate Darwin's theory.

A. ROSE.

New York, N. Y.

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[All of us listen to Dr. Rose, when he speaks, with respect and attention. His scholarship is profound and his love for the languages of antiquity provokes our liveliest respect. But—we are just as far from agreeing with him as ever. I think I do not exaggerate when I say that a very large percentage of the scholars of the world are seeking to simplify orthography instead of trying to make it more complex. French and German are far more nearly phonetic than English, but over in those countries the silent letters—the few they have—are being dropped. New words are coming into general use by the thousand, and even in our own public schools the time spent on the study of "spelling" consumes valuable time that could be employed otherwise to much better advantage. The same is true in medicine, in all the arts and sciences.

In this country we are not primarily interested in what a German thinks about our method of spelling anemia—we want to know what it means *to us*, and be able to use the term with intelligence, and not be compelled to resort to a dictionary every time we indite an article for the press.

English is English—it is the linguistic melting-pot, and we can not retain all the original forms from which our words were originally derived. If we must adhere with faithful detail to the inflections of Greek and Latin, then we should also be prepared to write pure Sanskrit, pure Hebrew, pure Arabic, pure Gaelic, pure Chippewa. The principle is the same, whatever the origin. But, *vita brevis, ars longa*—language is after all primarily a tool. Let us make it the most effective tool—not one of infinite complexity and difficulty in the use. With apologies to Dr. Rose, we yield the floor!—ED.]

PHARMACY INSPECTION FOR THE DISPENSING DOCTOR IN KANSAS

In the editorial section, page 210, of this issue, we refer to a bill to be introduced in the legislature of the state of Kansas, which if passed would affect the interests of the large number of physicians who dispense their own remedies. Thanks to the kindness of a reader of CLINICAL MEDICINE we have received a copy of this bill, known as House Bill 592. This is the proposed new pharmacy law of the state, providing, among other things, for the examination and licensing of pharmacists, and restrictions upon the sale of poisons and pharmaceutical preparations.

What interests the physicians of Kansas in this proposed law is the interpolation of new features, which we epitomize briefly, as follows:

1. Every physician who furnishes medicine will be compelled to write a prescription, to be signed and serially numbered to correspond with a similar number on the package or container. Such prescription must bear the doctor's own signature and must be kept on file in his office for inspection by officers of the state board of pharmacy. The emergency administration of drugs is excepted.

2. The bill does not prohibit the physician from dispensing such drugs or medicines as he sees fit, but said drugs must "comply with the Kansas food and drug law and be subject to inspection."

3. Every dispensing physician, like every druggist, is made responsible for the quality of the drugs or chemicals he dispenses; should he knowingly adulterate these preparations or cause them to be adulterated he shall be deemed guilty of a misdemeanor.

4. The state board of pharmacy is authorized and directed to formulate uniform rules

and regulations for the execution of the law, and to collect samples of drugs dispensed or offered for sale and to have them examined in the drug laboratory of the state.

While upon cursory examination the bill does not seem particularly burdensome, there are features which render it unsatisfactory to the medical and allied professions.

First, while the right of the practitioner of medicine to administer or supply needed remedies is distinctly admitted, no such exemption is provided for the veterinarian or dentist. According to a technical interpretation, members of these professions would not be permitted to administer or supply drugs of any kind except by the prescription route, "emergencies" (whatever those may be legally) being excepted.

Second, the requirement that the physician should write and file in his own office a prescription for every remedy he may give a patient in practice would be exceedingly burdensome. Every laxative pill handed out for immediate consumption, every cough lozenge, every headache tablet, every simple remedy given for minor ailments would require a separate signed prescription and a labeled and numbered container. Even in prescribing at the patient's bedside the convenient and time-honored "glass" would have to be laid aside and a container provided and a prescription written. The violation of any detail makes the doctor subject to fine or jail-imprisonment!

Per contra, so far as we can find in this bill *there is no provision* for the recording of sales made over the counter by the druggist who prescribes (as practically every druggist does) for simple or other ailments. He may sell (with containers or without container) laxatives, cough syrups, headache tablets, gonorrhea cures, kidney "cures"—indeed, anything not containing any of a specified list of poisons—as often as he pleases and in any form he pleases. Acetanilid and its combinations and derivatives are not included among the poisons. As a result, therefore, the druggist is left free to *practice medicine* as well as dispense drugs—and the physician may do neither *without the supervision of the board of pharmacy.*

Third, it will be noted that the execution of this law is to be vested in the state board of pharmacy, and that this board is authorized and directed to make "uniform rules and regulations," which are to have all the force of statute law and the violation of which, *as by the statute provided*, is punishable by fine and imprisonment, or both. Frankly, we are afraid of such "regulations." They open the door to beaurocratic tyranny, for such "regulations" may be made, and often are made, the means of burdensome and oppressive details which are difficult of observance and perhaps intended to be elastic enough to reach any socalled "offender" against trade-policies. With the greatest respect for the Kansas State Board of Pharmacy, which we have no doubt consists of an estimable body of gentlemen, it hardly needs saying that pharmacists and their representatives are not inclined to be judicial in their dealings with dispensing doctors, whom they regard as trade interlopers and whom by resort to legislation they have repeatedly sought to drive back to prescribing.

This bill has reached us only today, just as we are closing the forms of CLINICAL MEDICINE. We have not had time as yet to examine it critically or to make recommendations. Needless to say we do not object to proper testing of the doctor's drugs (although they are now being most carefully watched by the Bureau of Chemistry, of our national government). But we do object, and we know that every physician in Kansas will object, to having something "put over" without opportunity for every doctor in the state to understand it, and file a protest if he finds cause for complaint.

We advise every Kansas physician to write his legislators to hold up this bill until it can be discussed *in detail* in every county medical society.

TEXAS PHYSICIANS—PLEASE NOTE!

An antinarcotic bill which is objectionable to the great body of medical practitioners of Texas has been introduced in the legislature and favorably reported, if *The Houston Post's* report is correct. This paper says:

"The narcotic prohibitory amends the law so as to reach those who supply drug fiends under the guise of the practice of medicine. In this it restricts the use of it by doctors to a strict prescription basis and takes away the right of the physician to fill his own prescription. Towns of 3000 population or under where many reputable physicians own drug stores, are exempted."

Apparently this act is so planned that the dispensing doctor in any town over 3000 can not even give a patient a cough or diarrhea remedy. We advise every Texas physician, no matter how small his town, to write his legislators to hold up this bill pending further investigation.

JUST AMONG FRIENDS

A DEPARTMENT OF GOOD MEDICINE AND GOOD CHEER FOR THE WAYFARING DOCTOR

Conducted by ***GEORGE F. BUTLER, A. M., M. D.***

WHILE, it is true, incalculable good has resulted from the promulgation of the germ-doctrine, it nevertheless has seriously injured scientific methods of thought; and this despite the supposed control-element in Koch's law. The theory, under the guise of scientific research, has led to special pleading of commercial value. Perhaps its worst effect has been the reduction of etiologic statements to a sort of "nickel-in-the-slot" contrivance: the helpless germ is put in, "it gets through," and nothing of the how or why is of any importance to the elucidator. The culture-medium is needed in the test tube, of course; but it is not needed in the body. No; for the germ creates all the elements of etiologic moment, the easy etiologist explains. Such crude pathology creates equally crude therapy.

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This fact is nowhere better illustrated than in the magazine exploitations of the buttermilk "cure" of old age. Buttermilk kills the germs, and old age disappears. This crude caricature of the views of Metchnikoff illustrates the distortion science inevitably undergoes through the neutral squint of the potboiler article. Metchnikoff lays stress on the fact that a man is as old as his arteries; that toxic products produce strain on the arteries; that germ action in the intestines creates extra toxins; that lactic-acid bacilli will interfere with those germs and, hence, decrease the strain on the arteries predisposing to senility.

Scientific as Metchnikoff's principles are, great as is the value of them pathologically and therapeutically, still they do not cover all the factors of the etiologic moment. The congenital potentialities of the constitution are not taken into account.

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Old age is a relative, not an absolute question, and, while to a large degree determined by environment—since paupers and moral imbeciles in a favorable rut live long—still, old age is determined by the impress made upon the fetus at the senile, or simian, period of womb-life. Arrest at this period of intrauterine development, through any of the processes which check development, may exercise peculiar influences upon the extrauterine development of the child.

When the arrest is produced by syphilis (which so frequently causes the senile appearance of newborn children), the child, because of organs that have undergone premature senescence, fails to pass through the first dentition or readily falls a victim to secondary infections. Precocity, whether of the intellectual or physical type, is an expression of arrest of development at the senile period, which causes the child to pass through the period of growth and senescence rapidly. Beside such obvious evidence of arrested development, minor expressions (such as the senile children described by Talbot and Souquest) occur. This may involve the skin alone, the rest of the system being comparatively unaffected.

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The truth of the popular opinion of precocity (early ripe, early rotten) is illustrated very frequently. Cratemus, a brother of Antigonus, was an infant, a youth, adult, married, begat children, and was senile in seven years. Louis II of Hungary was crowned in his second year, at fourteen had a complete beard, at fifteen was married, at eighteen had gray hair, and died at twenty. A ten-year-old boy, told of by Rhodiginus, impregnated a female. A boy born in 1741 had external marks of puberty at twelve months, and died senile at the age of five years.

The essential procedure to secure healthy old age is by guarding the arteries, kidneys, liver, spleen, and pancreas against the strain of toxemia.

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Buttermilk is an undeniable aid in this particular, but its exclusive advocacy is a nostrum-like abuse of an excellent adjuvant to proper dietetic and hygienic procedures. The old age of active intellectual life can be secured. For intellectual old age it is not necessary to adopt Goethe's satiric prescription, which he himself did not follow:

. . . The method is revealed:
Without gold or magic or physician,
Betake thyself to yonder field,
There hoe and dig, as thy condition;
Restrain thyself, thy sense and will,
Within a narrow sphere to flourish.
With unmixed food thy body nourish;
Live with the ox as ox, and think it not a theft
That thou manur'st the acre which thou reapest.
That, trust me, is the best mode left
Whereby for eighty years thy youth thou keepest.

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Climate, food, and environment produce types. This law works without discrimination among men and animals. The Holstein cow is just as much a natural product of the rank pastures and mild climate of the lands reclaimed by the Dutch from the North Sea, as is the Kerry cow of the heather-clad hills of Ireland. The American cayuse is nature's best effort to produce a horse upon the desert lands of the west, while no one could conceive of a Percheron very far from a big bin of oats and abundant roughage. The Jersey cow, when removed from her native isle, no longer picketed out, and given the range of a large and well-grassed pasture, always increases in size.

An Arkansas rooter, brought north and given conditions common to the corn-belt range and unlimited clover and corn, in the course of just a few generations, in spite of his degraded and aboriginal ancestry, would assimilate to the shape and type of the Poland China of the corn-belt. A parrot brought from Africa readily learns to swear in the English language. One parrot, years ago in New Zealand, some way found out that the kidney-fat of a sheep was a choice morsel, and as sheep increased in number in that country there developed a type of sheep-killing parrots; which, alighting on the back of the sheep, would tear the skin open and eat the fat around the kidneys.

The dog allowed to run wild very soon adjusts himself to his aboriginal environment and becomes gregarious like his prototype, the wolf, and, more curiously still, in a very few generations will take on the fawn-like color which distinguishes nearly all predatory and carnivorous wild beasts. The buffalo, if it could be domesticated, would in a short time become greatly modified in form. Its coat would grow less thick, its enormous forequarters would be reduced in size and its hindquarters enlarged. The need to be constantly fighting and on the run being removed, the power to fight and run would diminish. A black-walnut tree, which grows tall and straight on the rich, alluvial soil of a river-bottom, becomes little more than a scrub when the seed is planted on the top of some dry, sterile knoll.

If we turn to man, we find that the same conditions obtain. The native of the tropics, who lies down to sleep under a banana-bush and awaking reaches up and satisfies his hunger, then rolls over and goes to sleep again, never wants to do other than to sleep outdoors, wake up, reach, feed, and go to sleep. The northern man locating in the south, no matter if he is full of vim and energy in the north, inside of five years will lean up against a tree or fence and peacefully doze, while the weeds are running riot in his fields of corn and cotton, and indifferently "let things flicker" with just as little care as will his neighbor, the "poor white." Much of the energy and push which characterizes the man of the north is forced upon him by the pitiless alternative of working or of freezing and starving to death.

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Professions beget types of mankind. The man who works upon a railway, no matter in what capacity, always carries the railway brand with him and can be identified in a moment, while the western granger can hardly disguise the nature of his calling by any arts of dress—the brawny hand, the simple, honest look, and the too often ill-fitting suit invariably suggesting the toil of farm-life, the simple and candid ways of country folk, and the "ready-made" clothing stock. The Filipino, the Zulu, the North American Indian, the Hindoo, the Arab, Pat, who is always ready to fight at Donnybrook fair, my lord the English aristocrat, the lumberman, the miner, the commercial traveler, the politician, the sea-captain, each and all are the natural products of their environment.

The typical man of the west has not yet been evolved, but he is coming some day. He will be handsome physically—stalwart, energetic. He will represent also the best type of the world's intellectual development. His life will be shaped by science and fact, not by legend and superstition. He will deal with large things in a large way; will be a lover of the best in the home, in society, in politics, in business; be broad, generous, sympathetic, helpful. There are a few such men to be found today, and they are rearing boys of their type. The intemperate man, the cigarette-fiend, the lazy man, the dishonest man, the leech can never compete with this coming man, and they will go down in the struggle for supremacy. A western agricultural environment is the very best in all the wide world, and here will be reared the best type of the race.

The dreamer has done some work for the world! A hundred and fifty years ago there were some of these dreamers along the Atlantic Coast, in that narrow fringe of settlement where less than three million people lived. The wilderness was at their doors—communication was slow and difficult—Europe was six weeks away by sailing-vessel, New York and Philadelphia, though separated by but ninety miles, were two days apart; to Boston was a journey of a week even from points not far remote. In many places men still went to church fearful of Indian onslaught. And, yet, there were those who dreamed of empire; who thought the great British nation could be divorced; that old alliances and ties could be severed; that new principles of government could be established. They imagined that all men were born "free and equal." The world laughed at them.

But from behind the stone fences at Concord they spoke, at Breden's Hill they proclaimed it, and from New York to Yorktown they maintained it! And when Franklin, Jay, and Adams had concluded the treaty of peace at Paris, the diplomatists of Europe realized that the American revolution meant more than the severance of a colony from its parent state! France began to understand that the sequel was not, as it had been expected, the ruin of its ancient enemy, but that it implied the wreck of the Bastile, the triumph of the people, the end of bastard kings, of royal profligates, of pampered mistresses! Europe slowly awoke to the fact that the divinity that hedges kings was questioned, that the guillotine that could be invoked to chop off common heads might as readily fall on royal necks—that Louis XVI and Marie Antoinette died much as do other people!

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Then out of the centuries of oppression and of depression was produced a great transformation! The millions rolled like the waves of the sea against the ancient standards. France led, and the revolt did not end with Napoleon at Waterloo. It went on, until it swept away every shred of the corrupt court. It left no room for the feudalism that could permit the lord of the manor to treat his vassal as a slave.

Do you know that once in that old land a member of the nobility could shoot a tenant of his estate as he would a wandering fox, or that he could despoil him of his wife or daughter without redress? That a queen of that great nation could exclaim, when she heard that the people were starving for want of bread, "Why don't they eat cake?" That, while Parisian mobs were praying for food, the avenues of Versailles were covered with flour so that the court might enjoy a midsummer sleighride amid the imagined pleasures of winter? The dreamers of Europe and America put an end to this!

The wretched princelings who were ready to sell their subjects like chattels, the horrible inquisition of Spain, the rotten monarchies, all felt the blow! The revolution of 1830 in France was one evidence; the Reform Bill of 1832, in England, the breaking away of Italy from Austria, the rescue of Greece from Turkey; the abolition of the temporal power of the great church, the awakening of the Orient, the liberation of the slaves in '65, these, and a thousand more, are the fruition of dreams dreamed a hundred years ago.

They enlarged the horizon of men beyond the realization of philosophers and gave to human activities an unexpected scope. The son of the soil became the equal of the prince —knowledge, profession, statecraft, government, wealth advancement, everything was opened to him! The old bands and bars were overthrown, the old limitations removed. He no longer was the man with the muckrake; he could grapple the problem of the stars!

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The Far East was the early birthplace of the magicians. Its mysteries are sealed books. We may not know how many thousands of years ago the dreamers of its dreams led the people from the origin of the race upon Semitic plains through the passes of the Hamalayas to populate India; or west to what we now call Europe. We have no record of their conquest, except in the cuneiform inscriptions, the hieroglyphics upon the bricks of Egypt; the traditionary messages of the writings we call sacred. But after men began to record history—to preserve records—then we learn much.

And in the domain of religion, that sways our hearts and plays upon our emotions, think of the dreamers of Judea! Recall John, who came from the wilderness and in Bethabara—"beyond the Jordan"—proclaimed the Messiah to the critical and suspicious Pharisees! And Christ—the supreme dreamer, as he must have seemed to all his age, to his doubting countrymen, to the imperious Romans, to the refined Greeks—who could look into the future, and in the face of suffering and of ills, of scoffings and revilings, preach his appealing doctrine of universal love! What a dream it was!

(*To be continued.*)

AMONG the BOOKS

SIMON: "INFECTION AND IMMUNITY"

An Introduction to the Study of Infection and Immunity; Including Chapters on Serum Therapy, Vaccine Therapy, Chemotherapy and Serum Diagnosis. For Students and Practitioners. By Charles E. Simon, B. A., M. D. Illustrated. Philadelphia: Lea and Febiger. 1912. Price $3.25.

Dr. Simon has dedicated his book to Paul Ehrlich, the grand master of experimental medicine. It deals with the fascinating study of immunology, with the mechanism of infection and of organic defense, and with the various modes of biologic treatment and of chemotherapy, as also with the methods of biologic diagnosis that have been elaborated in the course of the last twenty-five years.

It is no longer permissible, even for older men graduated twenty and more years ago, to pass these subjects by. They must be studied, and must be studied closely, in order to enable us to give our patients the benefit of the best that modern medicine has to offer. Dr. Simon's book is presented as a guide for this study and affords all the necessary information, without too much detail and too much technical discussion.

WEBB: "HYPODERMIC MEDICATION"

Hypodermic Medication. By Frank Webb, M. D. With Prefatory Remarks by John Uri Lloyd, Ph. M. Boston: Therapeutic Publishing Company. 1912. Price $1.00.

This little book is based upon a series of articles by the author that were first published in *The Journal of Therapeutics and Dietetics*, these having been assembled and more fully elaborated. The discussion embraces a large variety of drugs that are more particularly employed by those of the eclectic school, but which physicians in general also have found useful.

While the injection, hypodermically, of the socalled "specific tinctures," or "specific medicines," is apt to be painful, Lloyd Brothers have succeeded in preparing a number of this class of remedies so as to deprive them of this objection, and these are recommended for use. The body is preceded by a chapter concerning the pharmacy of plant hypodermic remedies, contributed by Prof. John Uri Lloyd, which conveys considerable valuable information. Altogether, the little volume is decidedly interesting and useful.

LECOQ: "HYPODERMIC MEDICATION"

Manuel Pratique de la Médication Hypodermique. Par MM. les docteurs G. Bosc, Capdepont, Gillet, Mauté, Saissi, Tournade, Cottenot, et par L. Lecoq. First edition. Paris: Laboratoire d'Hypodermie. 1912.

This is a splendid manual of more than 300 pages, gotten out by a French pharmacist for the guidance of physicians. It describes the technic of the different methods of injection, such as hypodermic, intradermic, intramuscular, intravenous, epidural, and intrarhachidian injections, and discusses in the subsequent chapters the various combinations and uses of all medicines that are ever employed by this mode, even including bacterins and serums.

FLINT: "PHYSICAL DIAGNOSIS"

A Manual of Auscultation and Percussion; Embracing the Physical Diagnosis of Diseases of the Lungs and Heart and of Thoracic Aneurism and of other parts. By Austin Flint, M. D., LL. D. Sixth Edition, revised and enlarged by Haven Emerson, A. M., M. D. Illustrated. Philadelphia: Lea & Febiger. 1912. Price $2.00.

The publishers of this classical little book are to be congratulated upon their enterprise in having produced a timely revision of this manual, which has been of assistance to so many physicians in the course of many years. Dr. Flint's writings need no recommendation. His "Manual of Auscultation and Percussion" will continue to be a valued guide to the physician, and we wish it the same success it always has enjoyed.

LORAND: "RATIONAL DIET"

Health and Longevity Through Rational Diet. Practical Hints in regard to food and the usefulness or harmful effects of the various articles of diet. By Dr. Arnold Lorand. Philadelphia: The F. A. Davis Company. 1912. Price $2.50.

Dr. Lorand is best known to us through his interesting work on "Old Age Deferred," which we were privileged to review some time ago. He vindicates the appearance of the present volume by saying that probably very few physicians have so frequently an opportunity to observe the harmful consequences of a faulty mode of nourishment as one who, like himself, is practicing as a Carlsbad balneologist.

It is a surprising fact that even scholars well versed in a large variety of subjects often display the sheerest ignorance or show the greatest carelessness precisely in respect to what and the manner in which they eat. Dr. Lorand not only is a close observer, but he commands an immense field of observation. He, further, has had practical experience in the dietetic management of manifold disorders; and, finally is an interesting and, attractive writer. The present volume forms a highly acceptable addition to our list of text books on the subject of dietetics.

REIK: "THE SPECIAL SENSES"

Safeguarding the Special Senses. General advise regarding the use and preservation of the eyes, ears, nose, and throat. By Henry O. Reik, M. D. Illustrated. Philadelphia: The F. A. Davis Company. 1912. Price 75 cents.

"It is probably safe to say that fifty percent of the practice of specialists is made up of efforts to correct conditions that should never have been permitted to exist. They are constantly crying to the family physician and to the public that prevention is not only cheaper, but easier and better than cure." This excerpt from the preface of this little book gives its *raison d'être*. It affords instruction in the prophylaxis of eye, ear, nose, and throat diseases, and as such undoubtedly carries in itself a complete vindication for its existence.

This is the kind of book that should be studied carefully by the general practitioner, in fact, much of its contents might well be memorized, because of the importance of the subject with which it deals.

HERTZLER: "SURGICAL OPERATIONS"

Surgical Operations with Local Anesthesia. By Arthur E. Hertzler, M. D. New York: Surgery Publishing Company. 1912. Price $2.00.

This is a most useful little work, describing those operations which can be carried on with the aid of local anesthetics, and in which it is not necessary to invoke what to many patients is the bugbear of inhalation anesthesia. The reviewer regrets that the author concludes that hyoscine should not be used, because of the uncertainty of its action upon the mental state of the patient, and, personally, not only from his own experience but from that of many other men, he takes the liberty to differ with the author on this particular point.

Otherwise, the reviewer has been impressed with the excellent treatment of the subject in hand, as also with the varied forms of operations that may be performed under local anesthesia. The technic is described concisely, aided by liberal illustrations. The various points in the author's argument are emphasized by marginal notes printed in red, a feature adding to the usefulness of the little book. It is cordially recommended to our readers.

PAGE: "GASOLIN AUTOMOBILES"

The Modern Gasolin Automobile; its design, construction, maintenance and repair. A practical, comprehensive treatise defining all principles pertaining to gasolin automobiles and their component parts. By Victor W. Page, M. E. Illustrated. New York: The Norman W. Henley Publishing Company. 1912. Price $2.50.

This book claims to give the most complete and up-to-date exposition on gasolin automobiles ever published, and to be of greatest value to motorists, students, mechanics, repairmen, automobile draughtsmen, designers and engineers, every phase of the subject being treated in a practical and nontechnical manner. It is an attractive volume of almost 700 pages, embellished with 500 specially made detailed illustrations and diagrams; the illustrations defining the construction of parts being made from accurate engineering drawings according to best automobile engineering practice. The reviewer is too thoroughly chained to his desk ever to have been tempted into the field of automobilism. Hence, he can form no opinion on the value of this book, but he has the impression that an immense amount of information may be gained from a study of its contents. The book can be obtained from the book department of CLINICAL MEDICINE. So if your machine is balky or if you want to study its anatomy, send in your order.

THE JOURNAL OF VACCINE THERAPY

In the course of the last year the reviewer frequently has been interested in reading the excellent papers on vaccine therapy that appeared in *The Journal of Vaccine Therapy*, a publication which had been born into the world of medical journalism with the birth of the year 1912, and so it was with much regret that he read of the ill-health of the editor, Dr. R. W. Allen, which forced him to give up this work. However, it was a genuine pleasure to learn subsequently, through a personal communication from the publisher, that this monthly will be continued, and that Dr. W. d'Este Emery, who is widely known through his excellent work on "Immunity and Specific Therapy," will be the new editor. We congratulate the journal on having secured his services, and wish both the journal and Doctor Emery best success in the undertaking.

The Journal of Vaccine Therapy is published by H. K. Lewis, 136 Gower St., W. C., London, at the annual subscription rate of 10 shillings and six pence, post-free.

"STATE BOARD EXAMINATION QUESTIONS"

"State Board Examination Questions and Answers of the United States and Canada" is a practical work giving authentic questions and authoritative answers in full that will prove helpful in passing state-board examinations, every question being answered in full.

This is the fourth, thoroughly revised, edition of the well-known reprints from *The Medical Record*, former editions of which we have announced from time to time. The publishers are William Wood & Co., of New York. Price, $3.00.

THE PRESCRIBER

Those of our readers who are fortunate enough to receive *The Prescriber* regularly will not wonder at the decided liking the reviewer has expressed repeatedly for this splendid little journal, and to those who know the journal it will not be surprising that the journal appears with the new year in an enlarged form. Various excellent articles are promised for this year, for instance a series of papers on incompatibility in prescriptions from the prescriber's point of view. The January number contains the same interesting reviews and discussions for which the earlier volumes are so distinguished. The Prescriber is recommended cordially to physicians, in addition to whatever other journals they may take. The subscription price is only five shillings a year, post-free to any part of the world, and the completed volumes form excellent reference-books.

The reviewer acknowledges herewith the receipt of a bound copy of the sixth volume (1912) of The Prescriber.

THE BOSTON MEDICAL AND SURGICAL JOURNAL

The Boston Medical and Surgical Journal for November 28, 1912, claims, through *The New England Medical Journal* (the quarterly predecessor with which it was united in 1828), a continuous history of one hundred years. This century of existence is of interest. The first number of *The New England Medical Journal* was published in January, 1812. Other old medical journals of which the present writer has personal knowledge are *The American Journal of Medical Sciences*, *The London Lancet*, and the *Archives Générales de Médécine* (Paris), all three of which commenced publication in 1823 or very close to that date. All these journals, including *The Boston Medical and Surgical Journal*, not only still are in existence, but belong to the foremost and most important medical publications of the world.

We wish and predict for *The Boston Medical and Surgical Journal* many more years of fruitful and useful activity in the interest of the medical profession.

ROEMER: "OPHTHALMOLOGY"

Textbook of Ophthalmology, in the Form of Clinical Lectures. By Dr. Paul Roemer. Translated by Dr. Matthias Lanckton Foster. With 183 illustrations in the text and thirteen colored plates. Volume II. New York: The Rebman Company. Price $2.50.

This is the second volume of Roemer's "Textbook of Ophthalmology," the first volume of which was reviewed in these pages in the August issue, page 869. The present volume deals with diseases of the eyelids, with injuries to the eye, diseases of the vitreous and of the sclera, of the lacrimal organs, of the orbit, and with glaucoma, and muscular or concomitant strabismus.

CONDENSED QUERIES ANSWERED

PLEASE NOTE

While the editors make replies to these queries as they are able, they are very far from wishing to monopolize the stage and would be pleased to hear from any reader who can furnish further and better information. Moreover, we would urge those seeking advice to report their results, whether good or bad. In all cases please give the number of the query when writing anything concerning it. Positively no attention paid to anonymous letters.

QUERIES

QUERY 5887.—"Expectant or Active Treatment in Abortion. Anesthesia in Adenoid and Hemorrhoid Operations." F. C., Iowa, wishes to know whether in cases of abortion—second month—it is better to ignore the retained placenta, some temperature being present, or to remove it at once with a curette, saying: "I have always followed the latter course, but older practitioners disagree with me—and have even told patients that interference would cause trouble. My experience has been that it causes trouble to leave matters to adjust themselves."

He also asks what is the safe dosage of hyoscine-morphine-cactin for removing adenoids or tonsils in children four, six, and eight years old; and how administered. Also, as to dosage in removal of piles by cautery or injection method.

It seems to us that it would be extremely bad practice to leave shreds of placenta in the uterus. Jellett, in his "Manual of Midwifery," says:

"It should scarcely be necessary to condemn the expectant treatment, but, as some customs die hard, it is perhaps safer to do so. The expectant treatment was in the past usually adopted, even recommended by so great an authority as Winckle. Where part of the ovum was discharged the physician waited until one of three things happened, i. e., (1) the remainder of the products of conception came away, the termination devoutly hoped for, and when it occurred the advocates of the treatment pointed out how successfully they had avoided any intrauterine interference; (2) the ovum decomposed and evidences of sepsis presented; (3) patient lost as much blood from repeated hemorrhages as was considered safe.

"If the second or third termination occurred, the uterus was emptied, but, unless they occurred, the condition was allowed to persist. The natural result of such a line of treatment is that in a certain proportion of cases the remainder of the ovum or placental debris comes away spontaneously and the patient gets well; more often, however, intrauterine decomposition occurs, and the infection extends to the tubes, pelvic peritoneum or the connective tissue, and the patient becomes a chronic invalid or succumbs to sapremic intoxication.

"Such procedures must be absolutely condemned. The proportion of cases in which interference is not required is infinitesimal, and the longer it is postponed, the more difficult it is to carry out, owing to the closure of the cervix."

There are, it is true, some old-fashioned practitioners who allow "nature to take its course," because they are afraid to interfere, and it must be remembered that interference by an incompetent man decidedly increases the jeopardy of the patient. By all means, doctor, adhere to your present custom.

Adenoids and tonsils should rarely be removed under hyoscine-morphine-cactin anesthesia. Ethyl chloride, or, better still, ethyl bromide is the anesthetic of choice. A few whiffs of ethyl bromide produce unconsciousness, when the tonsils and adenoids can be removed in two minutes, the patient recovering from the anesthetic in time to expel the debris and blood. Were anesthesia prolonged, it would be difficult to prevent some of the blood from being swallowed or even drawn into the bronchi.

The writer's method is very simple and satisfactory. The patient is placed upon the lap of a nurse or assistant, the arms confined to the side with a wide bandage or towel, the head of the child resting against the nurse's shoulder. Ethyl bromide is given and anesthesia produced within one minute. A dilating mouth-gag is inserted and the tonsils are excised. The child's head is advanced over a receptacle and the adenoids are removed with a Gottstein curette. Finally, the forefinger is inserted and swept around the pharyngeal vault, to ensure removal of all the growths. By this time the child is recovering. His head is still further inclined over the basin and he is encouraged to expel the blood. Should hemorrhage be at all excessive, an astringent gargle is given or the throat swabbed with adrenalin chloride or similar preparation.

Where children are extremely nervous, one-fourth of a hyoscine-morphine-cactin tablet or the one-half strength tablet (dosage depending, of course, upon age and condition of the child) may be given hypodermically one hour prior to operation. The little one then goes to the table free from dread and partially somnolent.

There is no necessity for using any anesthetic when injecting hemorrhoids, if the technic outlined herewith is followed:

Use a 50-percent solution of carbolic acid in olive oil. Have the tumors exposed, clean, and anoint them with carbolated vaselin; half-way between apex and base insert the needle till the point is in the center of the tumor; inject 5 to 10 drops of solution slowly; turn the point of the needle to the right and inject 2 drops; then to the left and inject 2 more. If the pile is now white and hard, withdraw the needle; if blood follows, reinsert and inject the unblanched portion; take five minutes at least to inject.

Treat the largest of several tumors first; attend to three at one sitting without fear; after injection, again anoint the piles and return them. Have the bowels kept closed for three days, and then open with a laxative saline or castor oil and, before the stool is voided, throw 4 ounces of oil, followed by 2 pints of hot water, into the bowel. Pain after operation rarely calls for an opium and hyoscyamine suppository. Use the best material; also a large needle.

The use of a strong solution, enough of it, and thorough distribution of the remedy throughout the hemorrhoid until it turns white or gray in its entirely are the main points. Bear in mind that some hemorrhoids contain two or more "pockets," and that any quantity of solution thrown in from one side will fail to effect a walled-off portion of the tumor elsewhere. In a case of this type remove the needle and reinsert it into the unaffected area, injecting drop by drop until this tissue also turns white. Should blood follow the needle on its withdrawal, make pressure with a wad of cotton for a minute; if the bleeding persists, you may rest assured you have not secured a firm coagulum and must reinject.

Always dilate the sphincter ani as a *first* step, and lubricate the parts thoroughly with carbenzol ointment. Confine the bowels for three days, then, before the patient has a movement, he should take a copious enema and after stool throw into the rectum an ounce of oil, to which 2 minims of carbolic acid may be added.

If the cautery is used, general anesthesia is essential.

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QUERY 5888.—"Eczema and Mushroom Poisoning." P. A. S., Massachusetts, has under observation a case which gives him trouble. "A healthy, well-developed woman of forty, married, in June last ate of mushrooms and asparagus at dinner and soon after became violently ill, vomiting freely; later, she developed erysipelas of the face, this leaving a butterfly-shaped area of an eczematous eruption covering both cheeks and the nose, which itches, is inflamed, and persists to date. Should not this trouble," he continues, "be treated with a compound of the active principles of asparagus and of mushroom, with perhaps an ointment to allay irritation, and maybe some constitutional attention besides? The poor woman has suffered many things of many physicians, and rather grows worse."

We regret to say that it is absolutely impossible for us to express an opinion as to the possible efficacy of asparagin and mascarine in the case under discussion. In the first place, as you are aware, asparagin is a diuretic, stimulant, and tonic to the mucosa of the urinary tract. Muscarine is little used and not thoroughly understood. The drug is a cardiac sedative and stimulant to the muciparous glands, particularly the salivary. It checks excessive perspiration.

It is a question, of course, whether the ingestion of asparagus has anything to do with the present symptoms, and we do not know the variety of mushroom the patient ate. There are a large number of edible fungi, but idiosyncrasy in the individual or injudicious consumption may give rise to untoward effects, and even death, from the use of perfectly identified edible mushrooms.

We need not tell you that the toxic effects of mushrooms are due to the presence of muscarine, present in agaricus muscarius, and to phalline, contained in amanita phalloides and some other varieties. The fly-amanita (muscaria) and death-cup (amanita phalloides) are fungi that most often cause poisoning.

The symptoms of muscarine poisoning are mostly of cerebral origin. Within thirty minutes after the ingestion, giddiness is experienced, with nausea and salivation; then follow vomiting, diarrhea, severe cramps, dimness of vision, distressing dyspnea. The patient often appears drunk and extremely excited, then becomes drowsy, and convulsions preceded often by anuria make their appearance later. The pulse is slow and thread-like at this time, while the pupils, which at first were contracted, become dilated before death. The reflexes are abolished, and cold sweats appear. Death occurs either in the middle of the convulsions or during coma.

Out of six individuals poisoned by the agaricus muscarius, three died; one on the first, one on the second, and one on the third day after the meal. The fatal portion in each instance was a small one, being, in two cases, one-half of a medium-sized mushroom, and, in the third case, about one-sixth.

Phalline does not act on the heart, as does muscarine, but tends to dissolve the blood-corpuscles, thus bringing about a condition resembling cholera. Cramps in the abdomen and lower limbs are exceedingly severe; rice-water stools are voided every few minutes; vomiting, collapse, cyanosis, and muscular contraction, not infrequently convulsions, follow one another in rapid succession.

As will be seen, the symptoms differ entirely from those caused by muscarine. Death occurs in from two to four days, the patient toward the end sinking into a somnolent condition, due to carbonic-acid poisoning. The prognosis here really is less favorable than in muscarine poisoning, and, unfortunately, there is no known antidote for phalline. Still, if the quantity of the poison in the system is not too large, it may wear itself out in the blood and the patient recover.

We question whether the "erysipeloid" condition now troubling your patient is a result of mushroom poisoning, and think you may also safely exclude asparagus as a provocative agent. Have the patient's blood and urine examined. See whether there is any nasal or pharyngeal infection. What about the temperature? You might advantageously push calcium sulphide and nuclein, with perhaps pilocarpine in small doses; also apply carbenzol, 1 dram, and echinacea, 1 dram, in lanolin and vaseline, 1 ounce. We would also be inclined to give echinacea internally in rather full doses.

These are merely suggestions. In order to treat the patient intelligently, the basal pathologic conditions must be ascertained. We should be inclined to suspect lupus erythematosus. The situation and configuration of the lesion, burning or itching are almost diagnostic. Undoubtedly you have access to Stelwagon's "Diseases of the Skin." Note figures 153, page 714, and plate xx. It is just possible, of course, that the initial changes in the corium and blood-vessel are due to the presence of some toxin in the blood. Do not forget that ichthyol has proven extremely efficacious in lupus erythematosus; it should be applied locally and given internally in doses of 10 minims three times a day.

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QUERY 5889.—"Dropsy During Pregnancy." E. P. P., Michigan, requests treatment for woman 26 years of age, weight 140 pounds, pregnant for the first time and eight months advanced. Her face, legs, and feet are badly bloated (one leg twice its normal size); some bloating also on the body. The urine, scant in quantity, has a specific gravity of 1040 and is loaded with albumin. She has been given potassium acetate, lithia, hydrangea, and eupurpurin.

The patient is in a serious condition, and it may be necessary to terminate pregnancy. You may give pilocarpine to advantage; also push arbutin, 1 grain, every three hours.

We should not hesitate to put the patient in a wet-pack, and you certainly should give laxative salines so as to insure two or three bowel movements each day. True, there is quite a difference among clinicians as to the frequency of albuminuria during pregnancy. Some observers claim that this condition obtains in one out of every five or six women; Jellett says that he has observed 30 percent so affected; while Barker and Parvin, with equal facilities for study, have found albumin in excess only in 4 percent of pregnant women.

It must be remembered that a woman suffering from chronic nephritis may become pregnant or also a pregnant woman may contract ordinary acute nephritis from any of the usual causes. In addition to the possibilities to be considered, we also have to bear in mind the typical "kidney of pregnancy," which may present any one of the following clinical pictures, viz.:

(1) The symptoms of subacute nephritis showing here during the later months, persisting until delivery, then passing off after-

ward, never to recur. (2) Relapsing nephritis, in which albumin (often with casts) is found after the fourth or fifth month of pregnancy, disappearing after delivery, but returning again with each subsequent pregnancy. We ought then to differentiate between socalled "kidney of pregnancy" and nephritis proper. Albuminuria in the former case may be due to the increased work placed upon the kidneys or else to direct irritation from blood changes. (3) Pressure on the renal veins, causing congestion of the kidneys, which gives rise to conditions similar to those in congestive albuminuria of cardiac origin. (4) Pressure by the gravid uterus upon the ureters. (5) Anemia, due to spasm of the renal vessels produced by reflex stimuli from the reproductive organs. (6) A similar anemia due to occlusion of the small renal vessels by minute emboli that have their origin in some ferment in the blood or come direct from the placenta.

Treatment, evidently, to be effective, must be based upon a correct conception of the conditions present. If you will send us a specimen of the patient's urine we can, perhaps, state better whether you have to do with "kidney of pregnancy" or nephritis proper. Anasarca and albuminuria there certainly are, but you do not say anything about casts. The output of urine, we need not point out, generally is decreased in subacute or acute nephritis and increased in chronic nephritis; but here, again, socalled "nephritis of pregnancy" is marked by a reduced output.

All the nephritic symptoms, as everyone understands, are aggravated by pregnancy: the quantity voided steadily diminishes, the amount of albumin increases, specific gravity becomes lower; there is diminution in the output of urea, digestion is disturbed, headache and vomiting are observed, there is disturbance of vision, general weakness, drowsiness; and at last twitching of the muscles or of the limbs—even convulsions—may usher in uremic coma. The eye-symptoms are especially important, particularly when the gradual failure of vision is accompanied by steady diminution in the quantity of urine voided. Under such conditions pregnancy is liable to terminate prematurely, the fetus dying in the womb or immediately after birth.

Albuminuria alone will call for a regimen of simple purgatives. The patient's diet should be light. Red meat must be excluded. Chicken and fish, however, may be allowed in small quantities once daily. Soups and meat-extracts are forbidden. If from former experience with the individual or from the symptom-complex the presence of nephritis is to be inferred, the diet should be restricted to milk and farinaceous foods. Free purgation should be secured every second or third day.

In the present instance we should insist upon an absolute milk diet, giving two or three quarts daily. Digitalin and scillitoid may be given in dose enough to secure free diuresis, and if the arbutin, as already advised, is given, 1-64 of each every three hours probably will suffice. In other words, doctor, you must secure elimination—renal, intestinal, and by the skin; if necessary even placing the patient in a pack every other day, pushing pilocarpine to free diaphoresis. Should the patient show symptoms of an oncoming uremia (the urine suppressed, heart action becoming uncertain, dyspnea, vomiting, mental dulness, failing vision), the question of inducing premature labor must be considered; and, if such a course is necessary, this should be done with the least possible delay.

Bear in mind, though, that, when nephritis exists only during pregnancy and all the symptoms arising during the later months, it is rarely necessary to induce premature labor; in fact, French *accoucheurs* state that this should never be done, operation being more dangerous than eclampsia itself. We, ourselves, however, are inclined to believe that this is an extreme position and that artificial interruption of pregnancy is justified if, in spite of the institution of a restricted diet and proper medication, the symptoms steadily become more serious. It seems that you have no time to lose in this instance.

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QUERY 5890.—"Female Sterility and Artificial Impregnation." G. L. M., New Jersey, who is "becoming a great advocate of your principles of medication, having found them 'cracker jacks,' and expects to extend their use," asks "what medication, if any, will overcome sterility in a woman married over three years without having children or showing indications of being pregnant."

We regret that it is absolutely impossible, with our limited knowledge of the conditions obtaining, to offer any effective suggestions in your case of supposed sterility. Thoroughly examine the woman. See whether there is any marked displacement of the uterus or constriction of the cervical canal. After that, give the male your serious attention. Many a poor woman is accused of sterility when, in truth, the husband is at fault. The semen should be examined, and the existence of an early gonorrhea ascertained or definitely excluded.

Let us remind you of the conclusion long ago arrived at by Gerard, viz.: (1) that every normal woman whose husband has normal spermatozoa is justified in resorting to artificial impregnation, if she has been married two years and has no children; (2) every woman with an uncured catarrh (vaginal) is so justified, the semen thus being carried beyond the reach of harm; (3) every woman with uterine deviation, without inflammation, when postural instructions have not resulted favorably. The Gerard apparatus is somewhat complicated, but we now know that it suffices to secure and immediately introduce the semen into the uterine cavity, then closing the cervical canal with a tampon. Great care must be taken to prevent the introduction into the uterus of vaginal discharge.

As a rule, however, artificial impregnation is not necessary. With the correction of any abnormality in the female, some instruction with regard to posture, and a few other details, usually suffice, provided (as already pointed out) that the semen of the male contains normal spermatozoa.

In this connection we suggest that you procure Sturgis's articles, which appeared in *The Medical Council* of 1911, and are now obtainable in book form. Several other works have recently appeared dealing with this and kindred topics, which would be of interest to you. Among them, Kirsch's "Sexual Life of Woman" and Talmey's "Woman." The Index Catalog of the Surgeon-General's Library (Vol. XVI, 2nd series) contains 6 pages of references on sterility of the female.

If you have been reading CLINICAL MEDICINE, you have, of course, noticed Robinson's articles which appeared at intervals during the past year. Sterility in the male there has received particular attention.

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QUERY 5891.—"Mullein Oil for Partial Deafness." J. R., Texas, asks whether anything can be applied locally to the ear to relieve partial deafness. He explains that he has no faith in ear specialists. As to the latter declaration, we may say that a competent aurist will at least be able to discover the cause of the trouble, while also he might be able to cure or give relief.

Under the conditions, you may try, with safety, mulleined oil; in some ear affections, especially in partial deafness due to dryness of the tympanum or catarrhal conditions, it has proven efficacious. It is not easy, though, to secure a reliable preparation, hence the suggestion that you order Lloyd's preparation (or get direct from Lloyd Brothers, Cincinnati), an ounce-vial of it. In cold weather the oil solidifies; when the vial should be set in water and warmed. Not more than one drop should be placed in the ear.

The auditory canal should be syringed every second or third day with warm decinormal salt solution. If there is any deposit of wax, drop in first a few minims of hydrogen peroxide solution. After foaming ceases, flush the ear with the salt solution, dry with pledget of cotton wrapped on a toothpick, then introduce the mullein oil.

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QUERY 5892.—"Cerebrin and Cholesterin." A. N., Iowa, wishes to know what the "new products" cerebrin and cholesterin, discovered by an English chemist, are used for.

These two substances are not exactly "new," having been before the profession for some time. Cholesterin is secured from the gall and brain of animals, and from vegetable fats. It occurs in the form of white pearly scales; is soluble in ether, chloroform, and hot alcohol, but only slightly so in water, though the latter can be absorbed to the extent of 200 percent. Taken internally, it exerts an antiseptic action, and also is an antidote to the saponins.

Cerebrin is a nitrogenous, phosphorus-free proximate principle from brain-substance, occurring in the form of a yellowish-white crystalline powder. It possesses only physiological interest.

Protagon, another physiologic preparation from the brain, contains phosphorus. It is a white powder soluble in alcohol and in ether.

Cerebrum, the dried and fat-free gray brain-substance of the calf (one part representing five parts of the fresh organ), is indicated in neurasthenia, chorea, agoraphobia, psychoses, and so forth.

Besides those named, there are on the market several cerebral extracts which are more or less effective. Remember lecithin.

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QUERY 5893.—"Soft Corns." H. K., Wisconsin, has a patient who for a number of years has had a "soft corn" between the little toe and its neighbor. The corn was caused by a bruise.

It is a question whether you really have to deal with a true corn (clavus) or a callosity (tylosis). Frequently a hard epidermic patch will be noted between the toes, the thickened epidermis becoming softened by the secretions natural to the part. Inflammatory symptoms do not often make their appearance in these growths, although occasionally the subjacent corium may become inflamed; which, however, disappears spontaneously when the pressure or other external irritation is removed.

We suggest that you soak the toes for some time in hot water containing 1-2 ounce of sodium carbonate or of borax to the gallon. Scrape away the thickened epidermis, then apply salicylic-acid collodion or a 10-percent salicylic-acid rubber plaster, keeping this on for several days or a week, remove, bathe again, and rub away the hardened layer. Then protect the parts with ordinary adhesive plaster and place a wad of cotton dusted with a little zinc stearate between the toes. Sometimes the plaster is not necessary, the cotton and zinc stearate sufficing.

If you have a true corn to deal with, nothing equals the following: Salicylic acid, dr. 1; extract of cannabis indica, grs. 20; flexible collodion, dr. 1; plain collodion, dr. 1. Apply this to the corn, night and morning, for several days, then soak the toes in hot water and carefully remove the keratified layers by rubbing or scraping. If the flesh is tender, treatment should be discontinued for a few days, and then the painting resumed. Several repetitions usually are necessary.

Lactic acid also has given us good results. Apply pure, carefully, and after fifteen minutes remove the softened epidermis by scraping. Then apply carbenzol ointment with thuja, 60 minims to the ounce.

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Query 5894.—"What is meant by 'Giving to Effect'?" N. T., South Carolina, who is using the active principles, wants us to explain what we mean when we advise giving the triple arsenates with nuclein "to effect." He asks further: "Why are these arsenates given after meals? Will not the fats in the food counteract the effect of the strychnine, and will not the iron be converted into insoluble tannate by the tannic acid in the vegetables ingested? What is the physiological effect of nuclein?"

We confess that we are rather startled at the nature of your questions. Certainly you must be aware that arsenic in its various forms usually is given after food in order to prevent irritation of the gastric mucosa. We do not quite see how the grease ingested by the patient with meals could counteract the effect of strychnine (although we are aware lard has been used as an antidote for strychnine poisoning in dogs); nor is it at all likely that any tannic acid present in vegetables will cause the iron present in the triple arsenates to be converted into the insoluble tannate.

The expression "to effect," in connection with the ingestion of strychnine, does not mean that control of the legs should be lost as an effect of the drug, nor even that full signs of strychnine-sufficiency be evident in the subject (though it might under certain circumstances be permissible to push strychnine to that extent, that is, until slight twitching of the muscles, redness and smarting of the eyes, and other evidences of strychnine "sufficiency" are observed), but rather giving it until benefit results. Nuclein is a reconstructant, vitalizing tonic, and the combination of the arsenates of iron, quinine and strychnine with nuclein is indicated wherever it is desirable to improve systemic "tone" or generally exert a tonic-alterative effect. Some of the salts of strychnine (the sulphate, for instance) are best given for prompt effect upon an empty stomach, but arsenic or the arsenates should preferably be taken with or after meals.

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Query 5895.—"The Oxypathor." M. H. R., California, has had his attention called several times lately to the results obtained by the oxypathor. He asks: "Have you ever taken an oxypathor apart and determined what produces the results they claim to get from its use?"

If you will write to *The Journal of the American Medical Association,* and enclose ten cents in stamps for postage, you will receive a copy of that publication containing an exposure of the electropoise, oxydonor, oxypathor, and similar appliances.

The electropoise, Sanché's original instrument, contained a combination of black lead and charcoal. The oxypathor is a more modern affair, but based upon Sanché's idea, which is to connect the body with the earth, or water at a lower temperature. His first patients had fastened to either ankle or wrist one end of a dampened cord; the other end of which was attached to an old plow-point, buried in moist earth. As is so often the case with such things, there is a molecule of truth in Sanché's theory, but the various high-priced appliances on the market are not at all essential. We have never examined an oxypathor or read the literature of the concern vending this appliance.

The American Journal of
CLINICAL
MEDICINE

Vol. 20 APRIL, 1913 No. 4

The Significance of Elimination

THE evacuant drugs are among the oldest known to man. Centuries ago our professional forbears learned that it was good to empty the patient's bowels, and start the perspiration and the urine running off freely. Whatever fantastic theories they may have evolved to explain this fact, the fact was there—a many times repeated clinical observation—and the theories were devised to account for the undeniable fact. In time the development of human knowledge supersedes any theories, but the fact remains true even as it was in the days of Hippocrates.

Take, for instance, the entire class of febrile diseases. We know now that the peril lies mainly in the presence of toxins in the blood as it circulates to every part of the body, exert their disastrous impress on the weaker tissues, those already impaired by disease, and on the nervous centers. Whatever may be the source of the toxins, whether exuded into the blood current as the waste from cellular metabolism or arising from the life-processes of the invading microorganisms, the patient's safety depends upon his ability to excrete these poisons as fast as they accumulate; his recovery depending upon his ability to excrete them faster than they are formed.

Then, again, take the whole specialty of dermatology. The fundamental fact on which treatment here is built is the recognition of the effort of the skin to remove from the system matters not primarily intended to pass out by that channel, but by way of the bowels or the kidneys. Hence, the dermatologist looks first to the latter organs and seeks to raise their eliminative function to the normal point before thinking of attacking the cutaneous disease directly.

Take any chronic disease of any part of the body, and we find that one of the primary essentials for a cure is that the blood supplied to the affected tissues be kept free from toxins. Remove this depressing condition, and the curative processes of nature may then manifest their activity.

Eclampsia is a toxemia; delirium tremens is a toxemia. The epileptic paroxysm is due to accumulation of toxins in the blood. The pangs suffered by the morphinomaniac endeavoring to free himself from his deplorable habit are toxemic. Ocular maladies refuse to subside until the eye is fed with pure, nontoxic blood. The same thing is true of affections of the ear, the nose, the throat. That bugbear of the practician, "nasal catarrh," is kept up by toxemia.

Is there a solitary disease in the entire list that does not demand as one of the first considerations in its treatment the opening of the eliminant organs?

Empty the bowels by means of calomel or podophyllin, followed by a laxative saline to flush the entire canal; and—as Burggraeve used to put it—refresh the digestive apparatus. For the cure of chronic constipation, it is advisable to give combinations. Just as a six-cylinder automobile will give a smoother, easier motion than one with fewer cylinders, so it is with a judicious combination of intestinal tonics, each acting upon a different part of the mechanism, and synergizing the other constituents. Thus, if we take a combination of aloin, to increase peristalsis, emetine, to increase the intestinal secretions; atropine, to relax the circular-muscular fibers of the intestinal coats; physostigmine, to energize the longitudinal fibers; capsicum, to increase the sensibility of the mucosa; and strychnine, to energize all these, and the reactions of the system with them, we then will get results that far exceeds the sum-total of those to be gained from the ingredients taken separately. That is, let the cathartic power of the components be computed at 50, and we find that the power of the combination is about double that, or 100. This is an example of the synergism witnessed when a prescription is constructed on correct principles.

None of the old diaphoretics compares in power and value with pilocarpine. Not only does this remarkable agent increase the output of sweat enormously, but the secretion contains much more of the solid toxic excretory principles than the ordinary secretion. Dover's powder has its place, but this is a limited one, and it is not employed much nowadays. Possibly some old-fashioned countrymen still employ the "corn-sweats"—an effective measure without any special objectionable features. The use of large quantities of hot drinks is often unwise, as we do not wish to flood the patient's system with water and raise the blood pressure or to dilute this fluid so that the red corpuscles are in danger of breaking up. Sometimes, though, we do want to do just this thing, and we flush the system with vast quantities of water. This was one reason for the success of the older Thomsonians, who gave their decoctions in doses of a tincupful every hour, and had excellent results. Unfortunately they did not always discriminate between the effects of the water and those of the plant, and therefore gave credit to the latter that the more scientific studies of later times failed to verify.

There is no more obscure and illy comprehended department of therapeutics than that of the diuretics. The mode of operation of the old saline diuretics (the alkali acetates, tartrates, bitartrates, etc.) never has been elucidated. It is still a question as to whether they possess any such action apart from that of the water in which they are administered. The volatile oils, like that of juniper, act by directly irritating the dialyzing membrane of the kidney; and this rarely is desirable, indeed often it is perilous. A little dose of the oil may increase the output of urine, but when the amount is increased the excretion may fall off so quickly as to occasion trepidation in the heart of the doctor. Continuous irritation of this delicate structure—as by the use of gin as a beverage, or the popular "cocktail"—is almost surely the most frequent cause of interstitial nephritis.

One of the most interesting studies in therapeutics is that of the diuretic application of the vasomotor tensors and relaxants. Water flows feebly, if at all, through a swamp; the only way to establish a current is to canalize it. When in anasarca with extreme vasomotor relaxation the capillary circulation has degenerated into a swamp, we may canalize by the use of the vascular tensors, digitoxin, apocynin, digitalin or scillitin.

Take a pig's intestine, a sausage-casing, and try to blow through it—you can not do this, because the whole force of your lungs is expended in forcing apart the flabby walls. Now substitute for the gut a tin tube of the same length and diameter, and you can blow through it with the greatest ease.

The heart meets the same difficulty in its task of forcing the blood through the flabby, relaxed vessels. Give just enough of these vascular tensors to restore normal tension and caliber to them, and the heart's work is facilitated. Go beyond this point, and you contract the lumen of the vessels and waste the heart's power by compelling it to force the blood through narrower orifices. There is no more beautiful exemplification of the art of the true physician than this nice fitting of his doses to the exact need.

Fraenkel asserted that true digitalin reached the acme of its action only after thirty hours, while digitoxin required twice that time. As digitalis is usually given in doses repeated every four hours, by the time the patient experienced the full action of the first dose he would be taking the sixteenth. No wonder the drug "cumulated." Subsequent investigations have not confirmed Fraenkel, but, at any rate, these two powerful glucosides take far more time than most practicians realize. Besides, both of them exert more of the vasotensor activity than they do of the cardiotonic influence; so that overdoses will close the arterial outlets, while the heart is lashed to fury in the unavailing effort to force the blood through the spasmodically contracted arterioles.

Digitalein certainly has decided advantages over the more slowly acting glucosides just mentioned, especially when time is a factor to be considered and immediate action is required. Its action, according to Fraenkel, begins within half an hour and is well over within four hours, unless quite large doses are given; also, it has a less constricting action upon the vessels than digitoxin and the less soluble glucosides. But there is a "fly in the ointment"—even with digitalein—for only recently Kraft has asserted that this supposedly single glucoside is really a complex substance itself, being composed of all the water-soluble principles.

If we exclude digitonin (which occurs in appreciable quantities only in the seed of digitalis), we may divide the digitalis glucosides into two classes: those not readily soluble in water, generally powerful vasoconstrictors, which act slowly; and those readily soluble in water, also valuable cardiotonics, which act quickly. Which we shall use depends upon the character of the case.

When we desire vasoconstriction, with prolonged action, as in the treatment of dropsy, we should chose the former and more powerful agents mentioned; or apocynin may be substituted. This latter drug was so highly prized by those who used and knew it best that it was termed "the vegetable trocar." It may be given in doses of 1-2 centigram every four hours, increased to 2 centigrams or until it begins to act on the bowels.

When we find the urine deficient from overtonicity of the arteries, as after too large dosage with digitoxin, we can increase the output of urine only by relaxing tension of the renal arteries and permitting a larger supply of blood to reach the glomeruli. Here we may utilize the nitrites for quick action; but for more sustained effects we resort to the energetic sedative powers of aconitine, veratrine or antimony. The fifth glucoside of the foxglove is digitonin. This acts like saponin, and relaxes the vascular tension as well as sedating the heart. It begins to exert its activity within a few minutes, and the effects of small doses are well over within an hour. It is easy to see that it can have no appreciable effect in relaxing the contraction by digitoxin when given in the same dose. Its therapeutic value has of late years been questioned.

In states of high vascular tension, such as arteriosclerosis, the action of these vasorelaxants is more than palliative. By allowing a freer flow of blood to the eliminant apparatus, they favor the excretion of toxins, which by irritating the delicate walls of the capillaries cause contraction and consequent cardiac hypertrophy. In so far as this is an etiologic element of the case, they are curative. If efficient measures are also taken to limit the flow of toxins into the blood, life may be prolonged indefinitely, even after the malady has reached an advanced stage of development.

"If you have no confidence in your ability or ambition —if you're content to be systematized—you'll become a human locomotive, running on prearranged schedules, passing and repassing over the same ties locked to the tracks, pulling and hauling when and wherever you're ordered—a mere automaton, your destiny controlled by better and bolder brains."

So says Herbert Kaufman, and so say I. One must think and act for himself if he would win.

—W. C. Abbott.

PROFESSIONAL ETHICS

In the earliest day, when mankind first began to congregate into communities, it became necessary to establish rules and limits to prevent the wants of the one overstepping the rights of the other. A few simple maxims sufficed for the needs of primitive times and conditions, and the decalog furnishes of this an example. But even this code shows evidences of development, for the last commandment betokens a state of mental growth where motives were recognized as culpable, as well as actions; and the first four denote the rise of a priestly cult. Excluding these, we have the first needs of men as members of a community—security of life, property, wives, the denunciation of lying, and that veneration for parents that justifies the latter in making their sacrifices for the children.

The increase of population brought complexities demanding the increase of regulation, until now the law is so unwieldy and complicated that not the most erudite of its devotees can always be sure of his opinions as to what really is law. Admitting that a man sincerely desires to do what is right it may be a difficult or even impossible matter to say exactly what is the right. This also depends upon what is the standpoint of him who seeks to make the decision. What does one mean by the "right"?

Some content themselves with retraint within the bounds of the legally right—so long as they keep out of jail they let it go at that. Two men go into partnership and deposit their funds in a bank. One of them draws out the money and keeps it. Legally right, to be sure, for the law says it would be impossible for business to be transacted unless each partner were allowed this right. But it surely does not tally with the ethic standard of him who looks at such matters from the moral point. With the latter, the question is neither as to the legality nor the permissibility of a matter, but as to its righteousness.

The right or wrong of an action goes far deeper than its legality. Conscience rules instead of legal enactment. True, the consciences of men differ, and sometimes they make men play strange antics. The Boers read nothing but the Bible, and applied to themselves the savage exhortations given to the Hebrews as to exterminating the Canaanites, root and branch. It was no small part of their grievances against the English that the latter would not suffer the Boers to obey their consciences and exterminate the Kaffirs. Men can persuade themselves that almost anything they want to do is a duty. Nearly every man who begins the treatment to enable him to desist from the morphine-habit, when he reaches a certain point and feels the craving for that drug, begins to persuade himself that it is his duty to go home and work, to do something or anything that will excuse his taking a dose.

Beyond the legal and the moral there comes the consideration of the rules and limits established by "society." It is neither illegal nor immoral for a man to go barefooted in the street of a city, but society forbids. Custom and the professional ethics forbid the physician's advertising for patients, and transgression of this rule excludes him from the more elevated circles of his profession. In fact, a physician may be a drunkard or immoral and yet pass muster, provided he does not advertise.

From these various codes results a sad jumble. In the medical profession may be found men who would not advertise in a newspaper, but who exercise their ingenuity to secure every form of advertising that would not bring them under the ban. Illustrated interviews may appear in the daily papers, but not an openly paid advertisement. The most eminent members are those who can come the nearest to the prohibited line without actually passing it. There also are men who do not hesitate to take the last dollar from their patients for operations totally unnecessary—yet these men are strictly ethical.

On the other hand, there are physicians, regular graduates of the most reputable colleges, legally registered, who travel over the country and insert their pictures and advertisements in the papers. They may do an honest business, never taking a dollar they do not fairly earn, doing good professional work, holding the confidence of patients for many years, and yet they are not ethical, although their business is legal and moral.

The one class consists of legal and ethical, but immoral scoundrels; the other, of men who are ethically moral, but legal outcasts.

I do not defend these men. The ethic standards of the profession are wise and just; but they should be superadded to legality, morality, and something beyond these—altruism. The confidence reposed in the physician is so absolute, so necessary to his duty, that he must adhere to a higher standard than any other men. He must not let the question of monetary reward influence his advice. The only consideration before him is the best interests of his patient.

There is presented, therefore, an intermixture of all the various standards mentioned, with a tendency to the legal—"do anything so long as you are not caught." Here we have the discipline of ancient Sparta repeated in modern times. The Spartan boy was taught to steal but not to permit himself to be caught, the theft being looked upon as creditable in itself.

There seem to be many Spartans among moderns. In boys' schools a similar sentiment prevails largely, and they "swipe" each others' goods without compunction, the victim being adjured to take better care of his effects in future. In legal circles the maxim "*caveat emptor*"—the buyer must care for his own interests—is an acknowledged principle.

Summing the matter, our advice to the new doctor should be:

Be honest. Keep your conscience clean. Do nothing you might fear the whole world to know. Do nothing you might fear your wife to know. Do nothing that would make you fear to face your final account on the Great Day.

Be ethical. It is not worth while to forfeit the esteem and respect of the most ethical of the profession. Professional standing is like a woman's honor—its value is never so apparent as when it has been lost. Men have postponed being ethical until they have "made their pile," only to find that they would willingly give it all to find themselves again within the pale. Better endure poverty for a time, knowing that true worth must surely be recognized; and exercise your wits to hasten that day, rather than lose what can never be replaced afterward. We know one man, very ethical today, very "swell," who yet lives in dread that somebody may one day make public the fact that when young he used to have in the newspapers of a neighboring town the paid announcement that he "stood for a season" each week at the hotel. About this way: "Dr. White, the distinguished Chicago specialist in diseases of the eye, ear, nose, and throat, will be at the Nevertell Hotel of this city on Mondays and Wednesdays."

Be diligent in business, and get your finances upon a solid foundation by the good old method of doing your work so well that it advertises you; by keeping your expenses within your income; by avoiding a display that wastes your substance and piles up debt, without deceiving anybody; and by finding methods of becoming acquainted and making friends that are yet honest and ethical. How? My dear boy, what are your brains for?

Still further, over and beyond all this, keep in mind that Eleventh Commandment, that embraces and supersedes all the rest: love God and love your neighbor.

Labor is rest—from the sorrows that greet us;
Rest from all petty vexations that meet us,
Rest from sin-promptings that ever entreat us,
Rest from world-sirens that lure us to ill.
Work—and pure slumbers shall wait on thy pillow;
Work—thou shalt ride over Care's coming billow;
Lie not down wearied 'neath Woe's weeping willow;
Work with a stout heart and resolute will!
—Frances Sargent Osgood.

A VOLIVA BLAST

Picked up on a street car a pamphlet emanating from Wilbur Glenn Voliva, entitled: "Doctors and Drugs, Surgeons and Knives." The "argument" of this battling Elijah is lucid, his logic irrefragable, but it leaves one involved in one difficulty—to account for the fact that even now, in this twentieth century of enlightenment, such a person could hold a following. Surely, when we asserted that civilization was only skin-deep we struck pretty close to the truth.

The Argument:

1. Medicine originated in the heathen temples; hence, today we should shun doctors when we are ill.

2. (*a*) The Greek word *pharmakeia* means "using drugs, poisoning or sorcery"; therefore, we should not guzzle Jamaica ginger, but let 'er ache. (*b*) Job told his advisory council, "Ye are all physicians of no value"; hence, when modern medicine warns us against draining the privy into the family well, we must not heed.

3. Many physicians have exclaimed against the imperfections of medicine and the absurdities of crude drugs, but instead of exerting ourselves to remedy these faults we must sit down and "let God do it." Why, certainly; and while we are about it, why not let Him feed, clothe, protect, and care for us? Why stretch out a hand to pluck an apple—just have faith and the apple will come into our mouth. Why plant grain? Why do anything? Effort to better our condition is immoral; it betokens lack of faith and of dependence on our own selves.

Why does Wilbur rant and rave thus? Doesn't he know that when God wants the Gentiles to be converted He will attend to the matter without having to call on Voliva for aid? Better show your own faith by minding your own business—but that's just what Voliva is doing. The closing pages of this circular are occupied by a violent attack upon pork, and an ad of the Zion Home, where the sick and afflicted are urged to resort at so much per! Terms given. Cut of building. Address the General Ecclesiastical Secretary.

We call the attention of the astute managers of the medical profession to this matter, and would suggest that the remedy should be to add another year to the medical course, require the degree of LL. D. of every applicant for matriculation, proscribe every state board that does not reject 99 percent of the candidates for registration—or, better yet, close all the medical colleges except their own and declare a closed season for doctors for ten years.

Some carping casuist may object that these remedies do not seem to fit the need; but we reply that these are the only official methods recognized; and if they do not fit the case the patient must exchange his malady for one they do fit.

SNOBBERY

Dr. Lorenz' trip to America, a few years ago, to attend the child of a wealthy American may be remembered. The question was then raised as to whether this foreigner should be accorded the privilege of practice here without passing the tests exacted by the law of the State. Snobbery claimed, he being a very distinguished European, that it was absurd to ask him to submit to the tests like a common man. Common sense suggested that, if the education of a doctor in Europe were so very superior to that of an American, there would be the less danger of his failure to meet our requirements.

Justice asked that he be subjected to the same trial an American physician would meet when desiring to attend a patient in the foreign-visitor's country. It is generally believed that the first suggestion was adopted by giving the distinguished visitor a minimal examination only.

But suppose, now, anyone of our dignitaries were to voyage abroad and present himself as an applicant for permission to practice! The attitude of the authorities across the waters would be, to seek an excuse for refusing. Keep him out! Only admit him if he so demonstrates his fitness as to disarm all objections. And that would be easy?

Just now we have another such "immigrant," Dr. Bickel, who is to treat the wife of a magnate for anemia by applying radium. The old question arises, Shall he be humiliated by a call to show how many and what muscles are attached to the hyoid bone; to give the cranial nerves, their origin, deep and superficial, course, relations, and physiology; to construct schemas of the mydriatic alkaloids; to describe the manufacture of veronal; explain the processes and rationale of digestion?

Why not? If our own medical graduates are required to know this stuff, why handicap them by permitting foreigners to enter without the same requirements?

The unfortunate thing is that drugs are confused with drugging. Most of the drugging is done by the public itself.—Vermont Medical Monthly.

THE NEWSPAPERS AGAIN

For all the Athenians and strangers which were there spent their time in nothing else but *either to tell or to hear some new things.* Acts, 17 : 21.

If the Athenians of old and the Romans of the time of Paul had had newspapers, the miracles worked by the Prophet of Nazareth would probably have been exploited, and some Roman or Athenian banker would have offered him a million sesterces or would otherwise have proposed to finance the establishment of a sanatorium for the treatment of lepers and all sorts of other patients.

We have before now spoken about the craving for new things and of the gullibility of the public and also have criticized the irresponsible manner in which this weakness of the public is fostered and catered to by the press, on the specious excuse that the people demand news. The press usually poses as an educating force in public life, and if that claim be granted its duty would seem to be to elevate and educate the public taste. Instead of this, it appears as though the press panders and caters to the basest desires of the public mind, and certainly to the most morbid curiosity. For the sake of presenting what it designates as news, the press never hesitates to play upon the sympathies and upon the tender feelings of people, arousing hopes of unhoped-for benefits, only to destroy them as ruthlessly as they have been vainly aroused.

A collection of the newspaper clippings concerning Dr. Friedmann's new tuberculosis remedy since last November presents reading material which should make newspaper men blush, and which certainly makes us indignant. In spite of a frequent warning not to expect too much, in spite of a skepticism which undoubtedly was inspired by the conservative discussion in medical journals, the newspapers printed the most outrageous talks, the most impossible stories concerning the value and the virtues of this new remedy. Some newspaper reporters even stooped to cable alleged interviews which were lies on their face, because no bacteriologist nor a physician of Friedmann's standing could have been guilty of making such foolish assertions as were attributed to him.

In spite of all warnings, in spite of the well-founded assertions of medical editors that it would require a long time for the remedy to be established, even if it should prove valuable, the hopes of thousands of consumptives were aroused and stimulated and the impossible was all but promised, though it took only two short months before the newspapers began to publish unfavorable reports and to print hints that, after all, the new remedy that was to eradicate tuberculosis from the face of the earth did not do what had been believed it would do and could not accomplish more or better things than had been done with methods in use for the last twenty years.

American newspaper enterprise, in obtaining news at all cost—no matter what, no matter whether justified or not—if only it can be called news, is notorious the world over. It has in the past wrought untold harm, and does so again, and it is a damnable imposition upon the patience of the people. It has before now been asserted that medical matters that are prepared for newspapers should be edited by physicians, and the necessity of such editing and such censoring becomes more and more manifest.

It would seem as though the newspapers had learned their lesson twenty years ago, when they forced the communication o

Koch's tuberculin, and but a very few years ago, when they discussed Ehrlich's salvarsan with such utter disregard of facts and truth, and then discovered, in the sequel, to what their methods lead in injuring the public. It seems as though there should be some way open to muzzle newspapers in matters in which the happiness of thousands is at stake.

The water is going to be squeezed out of the big trusts. The time is coming, and soon, when they will no longer be able to exact enormous dividends on fictitious capital. The water is going to be squeezed out of our medicines—and with it will go the dirt, coloring matter, gums and waste. The physician will treat his patients with medicine that is all medicine—pure, clean, exact, palatable. The waste and dirt are all pretense. Why pay dividends on them?

MAKING A DIAGNOSIS: WHAT DOES IT IMPLY?

Correct diagnosis is a jewel. Not for a moment, or by a breath, would we belittle its value. Like all jewels, its preciousness is enhanced by its comparative rarity. And only in this respect alone would we disturb its status among the medical arts—by just so much as we can make it more common and more readily attainable. For, to carry our illustration a step further, it does not diminish the real inherent worth of a jewel to make it plentiful; only a certain concentration of commercial value is disturbed, with which, of course, the true lover of stones has no concern.

So, let accurate diagnosis multiply and prosper, and let no man's tongue wag against it. But I think it quite possible, even probable, if not certain, that the scarcity of the real article may be due in large measure to the counterfeits that pass current in our teaching and practice. And the fact that these counterfeits are able to pass current is due, in its turn, to a certain fetish of terminology and nomenclature, of which it seems almost impossible to purge medical science—just as a certain fetish of signature, let us say, makes it possible to palm off counterfeits of master paintings and writings, and even causes us to fall down and worship genuinely signed work which is nevertheless not good work at all.

What is meant by correct diagnosis? What is it that the average physician—and especially the newly graduated physician—sets himself to do in the making of a diagnosis? Is it not, in effect, to give a name to the disease? Certain groups of symptom-complexes have, by the empiricism of the ages, been systematized into "diseases," and ticketed for the sake of convenience with a disease-name. And diagnosis, as she is taught and practiced, consists principally in a feverish effort on the part of the physician to catalogue the disease; and he will not be comforted unless he can put a label on it.

Now, no one disputes the wisdom, or even the necessity, of systematizing these symptom-complexes, and of designating them by convenient nomenclature. Nor does anyone question the desirability of checking up one's diagnostic findings against this systematic classification. To be sure, it has not anything like the inexorable finality that we are sometimes disposed to attach to it, for it has been radically modified within the lifetime of most of us, and is, in fact, in a continual flux of change. Nevertheless, as it stands in any given period, it represents the net sum of observation and experience, and must serve as the index of diagnosis, unless every man's individual diagnosis is to be, *de novo*, a law unto itself, with whatever nomenclature and significance he chooses to attach to it—and that would be a reversion from science to chaos.

But, then, it does not follow that, whenever a physician has run out a sufficient list of symptoms, and, checking them up with this tabulated nomenclature, has ticketed them with a disease-name, he has made a diagnosis. Nor does it follow that, where he has failed to do this, he has necessarily failed in diagnosing his case. Such classification, while it may be the index, is not the essence of diagnosis. The essence of diagnosis is, that the physician shall be able, by means of the diagnostic methods at his command, by inspection, and percussion, and auscultation, and analyses of secretions, and what not, to get a mental picture of the pathologic processes that are going on in the patient's body, and to correlate these processes into an interdependence. It is quite conceivable that a man might do this with thoroughness and clarity, and yet be unable, for a time at least, to give the disease a name. And it is more than conceivable that a man might be able to check up symptoms with a name, and yet have no conception of their pathologic significance. The diseases labeled in the textbooks are, after all, as we have intimated, not finalities, but types, and flexible types at that.

Unfortunately, this is the way in which most of our textbooks, and most of our instructors, teach diagnosis. They first give the disease a bad name, and then proceed to hang it. Or they pile up a list of symptoms, check it up with the table of disease-names, and label it. One order of procedure is as bad as the other. And this is what the medical student learns to expect, and even to demand, in his course in diagnosis. Only the other day the writer went to great pains to simplify for a class of students the plain pathologic significance of râles in the chest—how that a dry râle always meant the crumpling of dry collapsed tissue, a moist râle always the passage of air through fluid, etc.—when he was impatiently interrupted by one of his hearers with the question, "Why don't you give us the classification of râles, and the diseases in which they occur?" Nuff sed!

The crucial aspect of the matter, of course, is the therapeutic aspect. The end of diagnosis is treatment; and successful treatment rests upon accurate diagnosis. Hence the urgent and frequent insistence upon correct diagnosis. But all too often the younger physician, and sometimes the older one, too, misunderstands the necessity in the case.

I once knew two distinguished clinicians, one a regular, the other a Homeopath, both excellent men. One of them, the regular, always consistently refused to prescribe for his patient until he should have made a complete classified diagnosis of the disease; the other, the Homeopath, used to declare that it was not necessary to make a classified diagnosis at all in order to prescribe.

There you have the two extreme sides of the matter; and both, I think, were wrong. One kept his patient waiting long after he might have been intelligently helping him, and so lost valuable time; the other just as frequently went off at half-cock, and missed the guiding key to direct and effective therapy.

It is not necessary to check up and index a disease before beginning treatment; as soon as underlying pathologic processes are recognized, the physician is justified in attacking them—nay, he is obligated to do so. But, on the other hand, he has not thoroughly and adequately canvassed the pathologic conditions until he is able to recognize and classify the type represented by the disease-complex. This he ought to do, and not to leave the other undone.

PHYSICAL CULTURE OF WOMEN

The Young Women's Christian Association of Richmond, Virginia, has inaugurated a movement that must result in great good if it is carried out effectively, namely, to promote physical culture among women. There is need.

Too many women find themselves necessitated to meet conditions requiring physical exertions which they are hardly qualified to make. Their education, their girlhood's pursuits have not developed that healthy, capable body and the muscular strength demanded of them. The gallantry that assumes for women the role of ornament, disdaining use and duty, fails when put to the test of actual life. Too late they learn the necessity of possessing a wholesome, healthy, symmetrically developed personality; entitling them to take that stand beside man they so enthusiastically demand, instead of being a clog and encumbrance through their burden of ill-health and incapacity.

Time was when a young woman was expected to be exquisitely sensitive. Under any and all circumstances she should faint, regardless of the proximity of supporting masculine arms. All vulgarity must be eschewed in conversation with her—and most things, in the eyes of that generation, were vulgar. Tom Cringle took this off well when he represented the West Indian creole lady as protesting against being asked to take a slice of turkey "breast," when it should have been called turkey "bosom"!

Now we have the invalid who is unable to bear up under her burdens and regales her man with woes until he is desperate. Christian Science has been a boon for many households by stopping that pitiful habit; and this weird cult might be excused much were it not for the disasters that so frequently follow its advice to disregard the warnings sent by nature of beginning disorders.

Let us hope that the movement among women to share the work of men will lead them to study their physical deficiencies, as well as the means of developing the strength that will enable them to perform these duties like men.

OPTIMISM AND PROGRESS*

There has always been and there always will be, the two classes of men, usually described as the optimists and the pessimists. Some men usually look on the bright side of affairs, while some other men usually see only the dark side. It is a matter of temperament somewhat, of liver more, and of habit mainly.

Temperament one may compensate. The care of "the liver," and of the alimentary canal in general, is one of the things one must learn if he hopes that his days may be long in the land and well filled with usefulness and happiness. But we are mainly concerned with habit.

Many persons are unconscious of their habits. In fact the definition of habit might be, "that peculiarity of which the possessor is unconscious." Something happens that gives a man a tendency in the direction of growling, and it is congenial to him, or circumstances follow that confirm it, and before he knows it, he is a settled grouch. Perhaps he has opposed some project, and it has not succeeded; be begins to plume himself on his prophetic abilities, and looks for opportunities to repeat. The disposition to criticize, to find fault increases until he is ever ready to croak of coming failure.

Too frequently this dismal foreboding is itself the cause of its own fulfilment; for others, hearing of our prophet's condemnation of something in which they are interested, and remembering the bad outcome of projects previously condemned to failure by his jeremiads, lose faith in themselves and their own work, the matter in hand is pushed half-heartedly, and its failure is therefore inevitable.

Such a man is a nuisance in any community, and should be suppressed at the first opportunity. He renders progress impossible. Enterprise withers before his wo-predicting lucubrations, and disaster follows their disregarding.

It is just as easy to form a good habit as it is to contract a bad one. One need not grow into a grouch, a sorehead, a hangback, a croaker, a discourager of effort, a wet-blanket upon enterprise, and an inhibitor of progress.

On the other hand, one need not be like old Dr. Q., whose forty years' practice have taught him absolutely nothing, but who invariably recommends what the last number of the *Wochenschrift* has introduced. Speak to him of what he waxed enthusiastic over last week, and he has deserted it for this week's instalment.

What a simple matter it is to do the right thing, and how easy! Begin in good old Davy Crockett's way, and first be sure you are right. Study the thing out in all its aspects. Foresee the objections and give them due weight. Meet them with remedies. Satisfy yourself that the thing *is* right, that it ought to be, that it can be, and that you can command the means of making it be; then look for the objectors, learn what they can say and what they can and are likely to do, and how you can meet their opposition. Then, if satisfied, determine what is the best way to go at the matter in order to bring it to a successful issue.

This done, you are on the true and only right way to be an optimist. For the man who knows is always successful; while the man who thinks he knows finds pits opening under his feet.

It's largely a matter of age and of success. The youth who has large wants looks on the world as his "oyster" and proceeds to open it. He wants more than he has, and is not satisfied with things as he finds them—so he is naturally a progressive, a liberal, a radical, a reformer, at least in his own eyes. The aging man who has succeeded in winning is most anxious to hold on to what he has won, and not so much concerned in winning more. He is naturally a conservative, a standpatter, and an opponent of the innovator who tries to upset the established order of things and render vested rights insecure.

Evidently, both these men are essential to the well-being of humanity, the progress and safety of society, the advances demanded by civilization and the stability that renders these of true value.

I am by nature an optimist. I am a believer in eternal, never-ending progress. I believe in the relation of cause and effect, and that we may reason back from effect to cause. Hence, whenever any assertion is made as to the therapeutic efficacy of any measure, I am disposed to look on such an assertion as founded on something that induced it if it did not cause it; and to make the assertion the basis of experiment to ascertain if the facts justify the claims.

This is not *pure* optimism, for the optimist unquestioningly accepts the matter as a fact, without waiting for a trial; while the pessimist assumes that it is not true until proven beyond the shadow of peradventure. The one runs great risks of imperiling life by applying a new and untried remedy before its field and limitations have been determined; the other loses the chance of bettering his means of treating the sick and saving life by neglecting chances.

It is good for any doctor to render himself familiar with the history of medicine, and to note the attitude assumed by physicians toward the great discoveries and advances in our art. Every really important advance has been opposed at first, and has had to make its way despite the opposition of the great men, those whose age and attainments rendered them entitled to the designation of "authorities." The authority is necessarily conservative. He has a reputation to defend, and his adherence to a new tenet is sure to be assailed, hence he must be slow and sure in yielding assent. Then it is so much easier to oppose and call for proof—and your authority has earned the desire for repose, if not the right to it.

Looking back over what I have written, I am not quite sure whether I have succeeded in lining myself with either or any party. The optimist says I have faith only in things when they have been so proved that everybody may subscribe to them. The pessimist says I encourage innovations and lend force to every movement that upsets things. So I probably represent just myself!

If you think, when pain assails you,
  Other people will cry "Ouch!"
If you, when the thing that ails you
  Is a well-developed grouch,
Fancy that the world will sadly
  Sip of wormwood or of gall,
You are off, and mighty badly,
  That is all.

—S. E. Kiser.

THE MEDICINAL TREATMENT OF SHOCK

In *The American Journal of Surgery* for October, 1912, Drs. Vander Veer and Bendell discuss the treatment of shock in its relation to emergency surgery. This subject may be roughly divided into two parts: First, shock due primarily to loss of blood, as in crushing injuries of legs and arms, where, through rupture of large vessels, the patient becomes exsanguinated. Second, cases of severe trauma without great loss of blood, producing a condition of shock *per se*, with lowering of vasomotor tone.

In all cases of shock, brought about either directly through loss of blood, or in any way aided by the latter, the administration of normal salt solution is a matter of routine and is productive of good results in those cases in which the vasomotor tone is not lowered and in which the heart continues its share of work, being capable of exerting satisfactory muscular contractions; because then the addition of a substance to the organism most nearly approaching the normal blood-serum furnishes nature with an artificial but nevertheless efficient means of restoring the disturbed equilibrium.

Given, however, a condition of surgical shock, with loss of vasomotor tone not dependent upon vascular depletion, and the addition of fluid to a body containing an already crippled heart, may work havoc. The indiscriminate use of normal salt solution in conditions such as the foregoing, not dependent upon actual loss of blood, is unnecessary and contraindicated. It is a matter of necessity to administer saline solution under certain circumstances, but in others it is a procedure to be condemned.

The authors administer as a matter of routine 750 Cc. of saline solution subcutaneously as an initial dose. They introduce it slowly, and continue the administration as necessary.

Instead of inserting the needle in the subpectoral area, they believe that a more convenient and safer location is found at the junction of the second right costal cartilage with the rib, having the needle-point slightly downward toward the axilla. The lymph-channels in the latter area readily absorb the fluid as it enters underneath the integument.

The saline solution should not be cooler than body-temperature and it should be allowed to run out of the needle a sufficient length of time, before the latter is inserted, so that it becomes heated to the proper degree to enter the body, in most cases the interior of the connecting tube having chilled the solution during its course.

As for the treatment of shock by means of drugs, exclusive of normal salt solution, the authors have abandoned most if not all of the one-time honored remedies, especially strychnine and digitalin; the former, because it is found of little avail as a rapid and efficient means of producing increased blood pressure, the latter, because it requires altogether too long a time to act and also because of the uncertainty existing regarding the power of the individual preparations.

The authors have come to depend upon three drugs as sheet-anchors, so to speak. These are camphor, adrenalin chloride, and morphine. The first, being a rapidly diffusible cardiac stimulant, is used rather frequently where danger-signals in the form of suddenly impending collapse are encountered. In such a contingency the hypodermic administration of camphor—in the form of sterilized camphorated oil, 15 to 20 minims, and repeated if necessary—will produce satisfactory results. Care must be taken, however, not to give the administration of camphor too continuously, in order to avoid renal irritation; also careful asepsis must be observed, so as to prevent abscess formation.

In adrenalin chloride the surgeon possesses a means of raising the vascular tone which is almost equal to the value of morphine as an anodyne. Adrenalin frequently has made operation possible in emergency surgery where without it the prevailing shock contra-indicated any interference, and where the patient would otherwise most probably have succumbed.

In regard to the use of morphine with its rapid and wonderful power as an anodyne, the authors claim that it is not nearly as frequently resorted to as should be. Doubtless many a life has been saved and many a one lost just because the physician either gave too much or too little morphine to tide his patient over the shock and nervous excitement.

It is not because one man toils with his brain and another with his hands that the former is happier than the latter. His occupation has after all but little to do with a man's happiness; it is the spirit in which his work is conducted, whatever the work may be, that produces happiness and imparts dignity to the calling.—H. R. Sharman.

CRIME WAVES VERSUS WAR

Every winter is prolific of crimes of violence in Chicago, but the present season seems to be unusually so. Every newspaper one picks up is filled copiously with accounts of holdups, robberies, burglaries, car-barn bandits, automobile gangs, and murders; every magazine contributes its quota of mysterious Raffles and other attractive criminals. It is certain that, were there no demand for such pernicious stuff, reading-matter of this kind would not continue to occupy so prominent a place, and so sensational in style.

At first thought one is tempted to associate this unusual prevalence of crimes of violence with the increased cost of living, the growing acuteness of the struggle for existence, the Oslerism that turns the middle-aged worker out to starve while his place is filled by the young and strong, the growing army of those forced to the wall by the crushing competition of the trusts, or by the several other factors that might be named. But to all such hypotheses comes an extinguisher in the fact that the vast majority of these outbreaks are the work of youths—boys of from fifteen to twenty years of age, and for the most part those who have not the excuse of need and want.

However, for every evil an adequate remedy can be found, and the search for the one under consideration can be successful only when prosecuted along natural, evolutional lines.

The source of the trouble is Youth.

The remedy for the trouble is War.

Half a century ago the country was in the midst of our Civil War—that stupendous struggle between the two factions of the populace into which the western Anglo-Saxon had rent himself. Millions of men rushed to the conflict. The most momentous questions ever presented to the nation for solution were subjected to the trial of arms. A century of development resulted from those four years of hotbed stimulation, and the new American rapidly grew to manhood. No longer could he remain isolated and apart from the world's affairs. A new knight took his seat at the round-table, fully armed and ready for knightly emprise. Whatever might be his prowess, the world had him to reckon with henceforth.

But who were the men who fought that battle? Sturdy men of mature age, fully aware of the momentous character of the struggle, conscious of its bearing upon the future, with minds that had considered and digested the meaning of the Union, slavery, sectional and class rule, and like problems?

No, not so! Of the millions of men who made up the Northern armies, more than 90 percent were youths under age, most of them under 18 years. They went into the armies primarily from their instinctive love of a fight. It was a harking back to the earlier day, when youth and its keenness, its force and guile made one the victor in the struggles of Cave-man with Tree-nester.

The spirit that animated the youth of the sixties resides in the youth of the twentieth century. Man is primarily a fighter. In early youth he fights with nature's first weapons, and with the distinct object of possessing himself of visible and desirable property. A little later he fights for his mate. Growing to maturity, he grows wary; he recognizes the fact and need of laws, and regulates his warfare to the increasing complexity of the conditions—the rules of the war as he finds it. Should his country become embroiled with another and the appeal to arms be made, he is surely patriotic, but he "lets George do it"; he waits while the younger men press to the front.

When the Spanish war broke out Chicago saw her youth rush in crowds to the recruiting offices, begging for the chance to fight. When the city's quota was filled they struggled for the privilege of going to represent other parts of the country where there were too few men to afford a surplus.

Throw open the gates of Janus' temple today, and these restless youths would likewise flock to the camps. Let one side refuse them, and they would apply to the other.

"War is hell," said Sherman. Yes, truly. It is grief, desolation, death; it is ruin, demoralization, a return to the brute.

Granted, fully. You can say nothing so bad about war that we will not agree with it, without argument or palliation.

Even so, yet—give us war rather than robbery; the soldier always rather than the bandit.

DR. BUTLER AT MUDLAVIA

The announcement is made that Dr. Geo. F. Butler has accepted full charge of the sanitarium at Mudlavia, Indiana. One hardly knows which to congratulate the most, the institution or Dr. Butler—the institution upon having secured the services of so able and distinguished a man, or Dr. Butler upon having acquired such a splendid outlet for the exercise of those peculiar powers which those who know him know that he possesses in such richness.

Concerning Dr. Butler himself it is altogether superfluous to say anything here. He has been know to the readers of this journal for many years, and they have not only learned long ago to respect his sterling qualities, and to admire his broad abilities, but have come to esteem him personally, and even to love him, for his genial human philosophy, which he has poured out unstintingly all his life upon all who have come in contact with him or within the sound of his voice. Nor is his fame by any means confined to this, or any other family group. He is a man of deservedly national reputation, and his association with Mudlavia will lend equally wide distinction to that institution

Simultaneously with the announcementof. Dr. Butler's appointment comes the intimation that Mudlavia is making ready for a campaign of enlargement and extension. Just what detailed form this expansion is to take does not yet appear, but we understand that the ultimate purpose is to make of Mudlavia a big national sanitarium and resort which will force the great health resorts of Europe—the Carlsbads and the Badens—to look to their laurels.

That this ambitious end will be attained no one will for a moment doubt who knows what the name of Kramer stands for. He is a man who does things; and he has but to make up his mind to an enterprise, no matter how gigantic, and it is as good as accomplished. And in this particular case it is gratifying to see that he has taken the high ground. Not only is Mudlavia to be expanded in scope and dimensions, but it is to maintain a dignified ethical character. With this end in view, its capable manager could not have done a wiser or better thing than to secure a man like Dr. Butler for the control of its medical department. His administration will command the confidence of profession and public alike, and insure the growth of the institution along sound progressive lines.

Success to the new Mudlavia! Success to our Dr. Butler! More power to his elbow!

The great error that has ruined thousands of otherwise able men is the belief that certain inconsequential things are beneath their notice.

GOING TO YURRUP?

The doctor who has long wished to take a fling at Europe, but lacked the means, may be glad to know that the French Line has placed in service a number of steamers that carry only what in other lines are termed second-class passengers. A similar single-class service is operated by the Leyden Line from Boston and the Allan Line from Toronto.

Under this plan, the rates across the ocean one way are only from $55 to $70, and those paying these prices have the run of the ship without any supercilious newrich scanning them disdainfully from the aristocratic precincts whence the secondrater is barred. The cooking is excellent, lunches being of four courses and dinners of five; the cabins are clean and well ventilated; the fellow travelers are unusually desirable, since the passengers largely are doctors and teachers.

Really, even millionaires, like ourselves, do not care to buy the whole ship; we can get along without caviare and unseasonable fruit from hothouses; we can sleep as well in an iron bed as in one of rare woods; we are surrounded by so much gilding and gorgeosity at home that we like to be without it at sea—and between purse-proud, vulgar trust fourthraters and school-teachers we prefer the latter. They usually are pretty and always intelligent, which is more than can be said of the others, in many instances.

That's the way we are going. But don't plan to sail in June, for the berths are all taken for the summer, or soon will be, the way they are being preempted. If you are planning to go, make arrangements some months in advance—and when you come home, tell us all about it.

Leading Articles

The Seamy Side of Medical Life

Or Practicing Medicine Under Difficulties

By CHARLES STUART MOODY, Sandpoint, Idaho
Captain, Medical Corps, National Guards of Idaho

EDITORIAL NOTE.—We are pleased to be able to present another of Dr. Moody's inimitable records of personal experience in the rough field of Rocky Mountain practice. We hope to be able to print other papers from his pen (or rather typewriter!) in the near future.

JUST the other day I was running over the back numbers of THE AMERICAN JOURNAL OF CLINICAL MEDICINE (a bad habit of mine on rainy days), seeking inspiration, when I came across several halftone presentiments of doctors sitting in their automobiles, with expressions of the greatest contentment on their faces. And why should they not show contentment? The man who can crank up his buzz-wagon and sail out to his calls in the morning is certainly to be envied. But, law me, these doctors are not envious beings. Now, take me for illustration, I hold forth here where autos, unless they could be made to climb a tree, are perfectly useless. Out here we have various means of getting over the ground, varying all the way from personal application of the pedal extremities to "slipping" the conductor of a freight-train.

Doubtless many of my professional brethren whose lines are cast on paved streets or turnpiked roads often bewail their hard lot and wonder why the Fates made them physicians (by the way, these same fellows would not be anything but doctors if they had the chance) and swear by all the gods that, if something were to offer so that they could keep Mollie and the babies from starvation, they would quit the medical game.

For the benefit of these fellows with a grouch I'm going to rip a few leaves out of my personal case-book and submit them as a sample of how the "other side" lives.

Across the Lake in a Storm

Case No. 1. It had been raining for three weeks steady; it rained October out and November in, then bade fair to keep it up until December came in line. Along about the ides of November things took a change and it began to snow, then it froze—and the wind blew. A northeaster came sweeping down the lake from somewhere over in Manitoba and made Spitzbergen appear like the Florida orange-belt. In the midst of this blizzard came a man from across the lake in a rowboat summoning me to attend a sick lady fifteen miles away. Experienced physicians need not be told that it was night. The physician's duty is to relieve human suffering at whatever cost of time and exposure. In fifteen minutes after the courier arrived, he and I were in the Water Fay, my motorboat, beating up the lake in the teeth of the storm. It was dark.

The darkness of Egypt, that of the proverbial "stack of black cats," was as Broadway illuminated to the darkness of that night. Fortunately I knew the compass points, and the little vessel plowed through the foam-capped waves, which froze as they dashed over the bows. In a few minutes the brow was covered with ice, ice coated the storm-hood and my clothing as I stood at the wheel. The motor, protected by heavy canvas, hummed along merrily and we lessened the distance with every passing minute. We reached the point on the lake nearest where my patient lived, but there was no landing. The waves dashed against the shore, spent their force and surged back. There was nothing to do but to beach the boat. I turned on all the power possible and held straight for the bank. As the vessel struck ground I shut off the motor, and the Water Fay lay high and dry on the shore.

Jumping out, my guide lighted a "Palouser" and we started upon our journey through the dense timber and two feet of loose snow toward the distant settler's cabin where my patient lay. That trip it seemed would never come to an end. Hour after hour we trudged through those big pines, our only companion the howling, cutting storm. I hailed with delight the faint glimmer of a light through the darkness—at last we had reached our destination! . . . At the break of dawn I made my way back to the Water Fay and, aided by my guide of the night, got the boat started on the return trip. The storm had abated and the middle of the forenoon found me back at home, a little tired, may be, but happy in the thought that I had been the means of relieving someone who was suffering.

A Winter Trip Into the Mountains

Case No. 2. Not so many weeks ago I was sitting in my office, hoping that no ailing mortal might demand my services, for it was raining—a cold, driving rain. The day wore on and the dusk of evening settled down. I was about ready to close the office and go home when the chief of police made his appearance.

"Doctor," he said, "a man has been accidentally shot on 'Baldy' and they want me to bring a physician and come at once." .

What would you have done, brother physician? Exactly what I did, no doubt. I got together my surgical kit, loaded myself into a hack, along with the officer and another man, and we were off in the pitch-black night. We drove to the end of the wagon-road, some six miles out of town, then we had eleven miles through the deep timber over a rough mountain-trail, then three miles to the place where the wounded man had been brought by his companion. It had been snowing in the higher mountains and the last five miles of the trip was through six inches of new-fallen snow. We followed the tracks made by the messenger on his journey out; but they soon were obliterated by the falling snow, when we had to be guided solely by our knowledge of the country. It was long past midnight when we arrived at our destination. Our arduous journey was in vain. The wounded man was past the help of any human physician. A 30/30 soft-nose bullet had penetrated the calf of the leg from behind, literally tearing the leg off.

Besides being a lesson in carelessness in the handling of firearms, this experience furnished a great lesson in the shocking power of the modern high-power rifle. Had that man suffered a like injury from a railway train, he probably would be alive today. He had not lost any great quantity of blood, still, indications showed that he had been dead at least six hours, which would be less than two hours after the messenger left him. The man apparently died simply from the shock induced by the missile.

Making Professional Visits by Freight-Train

Case No. 3. Along the line of the Great Northern Railroad there are a number of small villages, tributary to our town, where passenger-trains do not stop. The accommodation-train, making one trip daily each way, gathers up the passengers from these little hamlets; but irrespective of how urgent a case may be the fast trains refuse to tarry. This makes it rather inconvenient for the practising physician, and this the more so, perhaps, since a great many of the conductors on the freight-trains refuse to carry passengers, not excepting physicians. It chanced a number of weeks ago that I had occasion to visit one of the little places up the line some fifty miles distant. I managed to make my peace with the conductor of an east-bound freight and duly reached my destination. My errand ended, I walked over to the station and waited for the west-bound freight-train that would pass through at about dark. When the train stopped for orders, I told the conductor my wishes.

"You can't ride with me," was the man's ungracious reply.

"But, my dear sir, it is absolutely necessary that I get back to the city tonight."

"Ain't no law against you walking the track," he replied, and turned away.

"Then you refuse to allow me to ride?"

"I'd refuse to let Jim Hill, himself, to ride. I wouldn't carry my grandmother's picture on this train."

I was not either Jim Hill or the conductor's grandmother's picture; all the same, I resolved to ride that freight-train home if I had to hang to the rods. So, when the train pulled out I swung on to the rear of the caboose and sat down. It was only a few minutes when the conductor came out. He glared at me, then yelled furiously:

"What in hell are you doin' on this train? Didn't I tell you that I wouldn't carry you?"

"Correct the first guess. You are not carrying me, the train is doing the carrying."

"Well, you get off at the next stop, that's all."

"Sure thing. I know you are under strict orders and I wouldn't have you disobey them for anything."

When the train pulled up at the next stop I got off, walked down the track several yards and waited. When the caboose came along I dexterously climbed on board again and squatted down on the rear platform as before. When that conductor came out his face was a picture to behold—not a very handsome picture, to be sure, but, all the same, it was a picture. He was a thin, spare man of Hibernian extraction, so I did not fear that he would have a stroke of apoplexy, but I did seriously fear an attack of hydrophobia; in truth, he frothed at the mouth, gnashed his teeth and used a large amount of unprintable language.

"I thought I told you that you couldn't ride on this train?" he fairly screamed.

"Are you still laboring under that same delusion?" I asked. "It is true that you stated that I could not ride, still it is a physical fact that I am riding."

"Well, you get off and stay off, or else I'll kick you off."

"Do you happen to be familiar with the law of this state?" I asked him sweetly.

"No, and I don't give a d—n for the law."

"My friend, put your threat of a few moments ago into execution, and I shall deem it my duty to instruct you in the law, and in the meantime the Great Northern will be looking around for a conductor to fill your position."

"Huh, get me fired, will you?"

"Not a bit. I'll get you arrested, and that sheriff down in my town will keep you in jail so long that when you get back on the road they will be running flying machines over it."

After some more parley we compromised. He, on his part, agreed to allow me to ride, while I, on my part, agreed to ride. I presented him with a Havana and promised to tell Jim Hill, the next time I saw him, that that conductor deserved a medal for devotion to duty.

Another Railroad Episode

Case No. 4. Singularly, the incident just related brings up the remembrance of another one that almost had escaped my mind. Some years ago I got a message from up the Great Northern Railroad line that a lying-in woman was having uterine hemorrhage. No trains were due that would halt at the shingle-mill where the woman lived, and, so, I secured a track-velocipede and started out to make the trip. One kind of these contraptions are worked both by foot- and hand-power, and they are called "speeders." Working a "speeder" of said description is one of the labors of Hercules brought down to date. I was bending my Gothic back to the task and scooting up the track at twenty miles an hour when, chancing to look ahead, I saw the Jap section crew under command of an Irish boss. The section foreman also happened to look up, saw me coming, and forthwith ordered one of his men to throw a tie across the track. I rode up to the tie, lifted my "speeder" off the track, and started to carry it around the obstruction, when the fellow halted me.

"Whare ye goin' wid thot speeder? he demanded.

"To Colburn," I replied.

"Don't ye know it's aginst ordhers?"

"I can't help that. There is a woman there in serious danger and I am in a hurry."

"I've got me ordhers t' break enny speeder on th' tracks."

"Let me advise you not to attempt to break this one," was my retort.

"Sato," he called to one of the Japanese workmen, "take thot speeder an' break it up."

The Asiatic seized a spike maul and started for my vehicle.

"Sato, look here," said I. "How much do you get working for the Great Northern?"

"One dollar and sixty cents a day," he answered.

"That's more wages than you'll get in hell if you touch that machine, for just so sure as you put a hand on it I am going to shoot you right where it will let a big streak of daylight through you."

Sato stopped, sat his hammer down and looked at the boss.

"Now, Mr. Section Boss, you have done your duty to the Company. You have tried to stop me, and I have refused to be stopped. I'm going to Colburn on this "speeder," and when I come back this way, if you feel that your dignity has been hurt, you may take this machine and make kindling wood out of it. But the dictates of humanity demand that I defy your authority just now—and that's exactly what I do. You take that tie off the track and let me pass, and be quick about it! or I'll not be answerable for the consequences."

The tie came off that track with neatness and despatch. I mounted my one-man car and hummed on up the track. The section crew were not there upon my return.

Hitting the Trail on Horseback

Case No. 5. An endurance test, and one that I should not care to repeat. During my sojourn on the Nez Percés Indian Reservation a messenger came in one day, his horse covered with foam, bearing the information that a particular friend of mine, who was working a prospect deep in the heart of the Bitter Root Mountains, had been struck by a missed shot, which had blown out both of his eyes. I questioned the messenger as to what had been done and the condition of the patient, and learned that he could see a glimmer of light, and also that they had put hot applications over his eyes.

I made a hasty calculation. The messenger had been nearly thirty hours in coming, and the way down hill. By hard riding, I might hope to reach my friend in thirty-six hours, which, added to the thirty hours, would make sixty-six hours after the accident before medical aid could reach him—sufficient time, together with the hot fomentations, to destroy the sight by inflammation.

To saddle my riding-horse, one of the best in the country, and "hit" the trail was the work on less than ten minutes. The wagon-road ended ten miles from home, and I plunged into the dense timber, following a dim mountain-trail. Fortunately I knew every trail in the country and was not delayed on that account. All night I held on, urging my mount whenever possible, walking at times over the steep hills to rest him. Day dawned, noon came, the sun rolled down the west, and night fell once more. Poor old "Buck" was famished, but he held bravely on, staggering as he walked. I reeled in the saddle from fatigue and loss of sleep. It was dawn again when I reached the bedside of my friend in the little prospector's cabin.

My worst fears had been realized. I removed the bandages—his eyes were sightless. Lying on a bench, his head on a folded blanket, the brave fellow submitted to my removing the particles of stone that were imbedded in the eyeballs, without uttering a murmur. For two long hours I worked by the dim light of an oil-lamp, what, though my hands trembled and my sight was dim from loss of sleep. Ah me! what sad things we physicians do encounter! I had counted the journey easily made had I been able to reclaim that vision, but it was not to be.

I might go on and fill pages with experiences in the far West, hardships endured in the cause of humanity, incidents in which mingle the grave and the gay, but enough has been told to cause the physician situated in a pleasant environment to take pause whenever he feels disposed to bewail his hard lot. You of the East and Middle West are not familiar with the term "hard lot," you do not know its meaning.

What Was It?

A Lesson in Psychotherapy

By SHELDON LEAVITT, M. D., Chicago, Illinois

"CAN you cure that?" This was the question shot at me by a blunt fellow who came into my office one day, after he had bared his chest for my inspection.

It was a bad-looking sore, surely enough, and had been pronounced an epithelial cancer, he told me, by more than one physician of experience and standing.

I looked at him with interest. He was a man of spare build, and his face exhibited some pallor; but there was something about him which gave the impression that he had unusual powers of resistance. The lymphatics of the axilla were hard and swollen.

My impulse was to give him a negative answer; but I bargained with him.

"Do you believe I can cure it?" I inquired.

The smile which came to his countenance was at first incredulous. For a moment he was silent.

"Well," at last he said, with an earnest drawl, "I've come a long way to see you, and I reckon I must have had some faith or I'd stayed at home. I was told that you could cure most anything, so I decided to go. You look like an honest man, and you haven't said you can't cure me, so I'm going to believe that you can."

"Well, then, my friend," I spoke back, "your faith matches mine; and I've found when faith meets faith there usually is something doing. I can't say from such an examination whether that is cancer or not, and I don't much care. I set no limits to the healing-energy when it can be exercised under the best conditions. The cure depends as much on you as on me. If by any means I can so jar your organism as to set all your energies moving in a right direction I shall be able to cure you."

We looked at one another for some moments without speaking. Then I said in tense tones as I looked him steadily in the eye:

"I shall expect you to get well."

I applied an antiseptic dressing, but gave no medicines. Every day, after making him comfortable in my office-chair, I gave him, without hypnosis, strong suggestions of returning health.

During the first week or ten days I discovered no evidence of improvement, but in spite of this the patient grew in his confidence of recovery.

Then the margins of the sore began to grow pink; the surface became less moist; healthy granulations came; and six weeks later the thing had healed. The glandular enlargements subsided and the general health seemed improved.

Two years later there had been no recurrence.

What was it? What did it?

Solanine Versus The Bromides

Especially in the Therapy of Epilepsy

By THOMAS G. ATKINSON, M. D., L. R. C. P. (London), Chicago, Illinois
Associate Professor of Neurology, Chicago College of Medicine and Surgery, the Medical Department of Valparaiso University

BURNING down a house to roast a pig is not a procedure that appeals to the mental make-up of the Anglo-Saxon, however it may commend itself to the inscrutable mind of the Oriental. I can conceive of exceptional circumstances under which one might, figuratively at least, burn down his house—not to roast a pig, I cannot imagine any civilized man wanting roast pig that badly—but, let us say, as Palissey the potter did, to conserve a rare artistic quality of china. But as a routine procedure, even for such a high purpose, I repeat it does not commend itself to the shrewd, practical, sensible, economic mind of the westerner.

It is a poor rule that will not work both ways. The rational mind looks with equal disfavor upon a method for putting out a small blaze, or damping a too cantankerous fire, which involves destruction of the entire house. Here, let us say, is a furnace whose flues have a tendency to "spark." Once in a while the chimney does actually catch fire. shoots fireworks for half an hour, and creates a small-sized panic among the household and neighbors. An expert is consulted. He examines the premises; asks numerous questions; perhaps is fortunate enough to see one of the eruptions in progress; and looks wise. Says he knows something that will avoid all future trouble of the kind. So he goes to work and instals, at great labor and expense, a cumbersome system of sprinklers throughout the house, which he keeps playing constantly, so as to steadily drench the walls and roof and floors, and even to pour a spray of water upon the furnace itself. The furnace smoulders, of course, and presently goes out altogether; the inmates become sick and are obliged to move out; presently the walls and floors begin to moulder and rot under the continuous seeping of the water; and at last the whole house becomes a mouldering, decaying ruin. But the expert "points with pride" to the fact that, since he installed his system, there has been no more sparking of the flues, no more outburst from the chimney.

What would be the sane man's criticism upon such a course?

What the Bromides Really Do

Yet that is precisely what most of us have been doing for a great many years with the bromides in medicine. Someone discovered, accidentally or otherwise, I cannot determine which, that the bromides would damp the fires of the nervous system, prevent "sparking" of the neurons, and head off explosions in the cortex. In order to do so, it was necessary to saturate the body with enormous doses of a salt whose chemical potential is about the highest in the materia medica, and whose definitely determined properties are those of a protoplasm-destroyer (especially of the cortical cells), a muscle-paralyzant, a heart-depressant, and a general function-impairer. And so, under its steeping, the body-furnaces smouldered and all but went out; all the vital forces became sick to the vanishing point; and at last the very walls and roof decayed and rotted away.

But the bromide therapist pointed triumphantly to the fact that his treatment stopped the nerve-sparking and suppressed the cortical explosions! And most of us have been following his peculiar plan all these years, with no other excuse than that the sparking must be stopped, and the explosions must be headed off, and we had nothing better to work with.

Well, perhaps that *was* an excuse in the old days. Almost any therapeutic expedient might justify itself upon the plea that the necessity is urgent and that there is nothing better available; although in most cases the bromides do more harm than good, and therefore ought to be denied even this justification. However, let it be admitted that the necessity *does* frequently arise for this sort of therapy. There *is* a group of conditions, covering a rather wide range of functional manifestations, in which the cerebral cortex is the seat of muscular spasms, either as the originating center, or as the reflex arc. Sometimes the irritating stimulus is an anemia; sometimes a nerve-loading; sometimes an inexplicable biologic phenomenon. Often it is a perfectly normal stimulus acting upon an abnormally irritable brain. But always, in this group of conditions, it is a process which is, for the time being at all events, unreachable through the peripheries; and the only way to control the spasms is to sedate the cortex so that it is no longer hypersusceptible to irritation.

The bromides hold out a tempting means of accomplishing just this kind of sedation—and for many years they have offered practically the only effective means. And so, in spite of their heavy mineral potential, their enormous dosage, and their destructive action upon the tissues, we have used them, in default of anything better. But this plea is no longer vaild. There is at hand a therapeutic agent which yields all of the desirable effects of the bromides, with none of their objectionable properties. Indeed, it has been at our doors these many years, and we failed to recognize it until the alkaloidal preparation of its active principle drew special attention to its specific pharmacology. I mean solanine, which any enquiring mind may know is an alkaloid-glucoside commonly derived from the young shoots of the potato.

The Use of Solanum, and the Advantages of Solanine

It is but fair to note that our friends the Eclectics have had solanum in their materia medica for several years. As long ago as 1837 Louis Valentine was using it in non-traumatic tetanus. Its modern status in their armamentarium, however, dates from about 1890. We are told that "success with it has been recorded in chorea, puerperal eclampsia, infantile and hysterical convulsions, and epilepsy." It never seems to have come into general use, and several Eclectics to whom I have spoken about it did not even know its name, and those who did know its name were obliged to look it up in the book to ascertain its pharmacology. The pharmacopeial description closes with the significant words "The drug needs further investigation."

Well, it has had further investigation, in the shape of the isolated, concentrated active principle; investigation, both experimental and clinical; and solanine is now ready to take its place among the major therapeutic agents, and to replace, with its beneficent qualities, the baneful and badly abused bromides. It has distinctive physical advantages over the bromides, to begin with. It is an organic, vegetable alkaloid, instead of a heavy mineral; it has a low chemical potential, and therefore does not upset chemical and metabolic equilibrium in the tissues; it exercises a normal pharmacological action, being in the nature of a proximate principle; and its dosage is fractional, since it possesses one hundred times the therapeutic potency of bromide of potassium. All of which make it an infinitely preferable drug to the bromides for long continued administration.

Therapeutically, as already stated, it yields all the good results of the bromides, with none of their pernicious effects. It is a perfect cerebral sedative, quieting the irritable brain without in any wise seeping or tearing down the cortical cells. Indeed, I am not sure that it does not help build up brain tissue, both positively and negatively, i. e. by actual organic synthesis as well as by relieving the cells of functional exhaustion. At all events, I know that under its long-continued administration, together with its sedative effect, the patient becomes more capable of genuine mental effort.

It further possesses the valuable merit of definite selective action, making its therapeutic indication equally clear and certain. It is, as I have said, definitely indicated in all conditions *where the cerebral cortex is the seat of muscular spasms,* wherever these spasms may happen to manifest themselves. Hence it is a sovereign remedy in epilepsy, infantile palsies, pertussis, spasmodic asthma, neuralgia, myalgia, cramping of the muscles of the extremities, and dysmenorrhea, where these latter are due to cerebral tension. And, contrariwise, these are the only conditions in which its benefits must be looked for—I do not mean the specific troubles I have named, but the conditions which depend upon cerebral irritability to stimulus.

Solanine is Not a "Panacea"

Nor do I mean to assert that solanine *cures* these conditions, any more than a splint unites a fracture or heals a diseased joint. The splint sets the bone or the joint at functional rest; then if it be amenable to reparative processes, these get their chance and do their restorative work. Solanine is a cerebral splint; a mild one, of course, for one cannot completely immobilize the brain, as one can a joint. Under its benign, resting influence, functional adjustment takes place; and presently the splint can be removed. Even in those cases where recovery from the underlying condition is impossible, a grateful state of quiet can be maintained. In many cases of infantile palsy and cystic brain, for example, I have seen the restlessness and the athetosis perfectly controlled, to the great comfort of both patient and attendants, by routine administration of solanine, without the slightest appearance of stupor or dulness such as attends the bromide therapy.

Doubtless the most typical of the conditions calling for this form of therapy is epilepsy, in which bromides have so long been used and abused. The treatment of this condition with Solanine, conjoined with verbenin, with lecithin intercurrently, is so far superior to the bromide therapy as to admit of no comparison. Under this treatment, supplemented, of course, with proper care of metabolism and elimination, the percentage of cures of non-traumatic epilepsy easily reaches fifty percent—by which I mean that, at the end of a period varying from six months to a year, the remedies may be withdrawn without a return of the seizures, and during the administration the patient's mental state is markedly cleared and his general condition improved. In practically all cases the intervals between the seizures are progressively lengthened, and mentality correspondingly brightened.

The Method of Giving Solanine

The method of giving solanine is simple. Saturation to the desired point should be secured as quickly as possible by comparatively full doses of 1-12 to 1-6 grain. Thereafter the sedative effect should be maintained by smaller doses of one or two 1-64-grain granules three times a day. It may be given with perfect safety to the youngest child. The lethal dose has not been definitely determined, but is probably around 8 or 10 grains—a quantity that is not likely to be administered by any physicians under any circumstances.

IT IS not conducive to the best interests of the profession or laity, to allow the use of medicines to be neglected or their rightful place in therapy usurped by less efficient means. In truth, I am quite optimistic concerning the outlook; even though perhaps the use of drugs in the treatment of disease has decreased during the last decade. I am hopeful that in the probability instead of losing confidence in the administration of drugs, the profession as a unit has more accurately determined the true capacity in which medicines should be utilized as curative and palliative measures.—Dr. O. B. Hall, Journal Missouri State Medical Association.

Vaccine and Vaccination

By ARTHUR M. SLEE, Swiftwater, Pennsylvania
Associate Director of the Slee Laboratories

EDITORIAL NOTE.—The readers of CLINICAL MEDICINE *will remember Mr. Slee's interesting paper upon "The Production of Diphtheria Antitoxin," which appeared in the January issue. We are sure that every one who read that article will desire to read this paper, which gives much that is of value regarding vaccine and vaccination—many facts not known to every physician.*

SMALLPOX, or more properly variola, for hundreds of years was one of the hardest and most terrible problems that had ever confronted the medical profession. Until up to the beginning of the nineteenth century this scourge raged unchecked throughout almost the entire world.

Brief Historical Data

It is practically certain that the disease came originally from the far East. Records have been found of its occurrence in China many centuries previous to the Christian era. From China, it presumably spread throughout Asia, India, Africa, and southern Europe. Doubtless the crusades were instrumental in its distribution through the various European countries, for the knowledge that pilgrimages, explorations, and wars are most excellent media for the transmission of infectious diseases has long been common property.

The Scandinavian explorers carried the pest to Iceland, where it destroyed a colony which they had founded there. To the western hemisphere the contagion was carried by the earliest Spaniards, creating terrible havoc among the native Indians. One writer even goes so far as to advance the opinion that variola was responsible in a greater measure for the degradation of that race than either firearms or "fire-water." Be that as it may, it continued to spread like an underground fire, at times remaining still, but no man knew where or when it would break out again with renewed vigor.

To control this plague, seemed beyond human power, and the physicians of those early days were not long in discovering the inefficiency of all known drugs in combating it. Smallpox patients were tortured with all kinds of hot applications and nauseous potions, but they continued to die by thousands. The saying that "from love and smallpox but few escape" came to be almost general, while those whom it did not kill it left most horribly disfigured for life.

The term variola had for many years been promiscuously applied to all sorts of eruptive diseases, but was established, as the scientific name for what we now know as smallpox, in the writings of Constantinus Africanus, a physician of the eleventh century. The name smallpox was later applied to distinguish it from syphilis, which made its appearance on European soil at about the middle of the fifteenth century and was known as great pox or black pox.

It was soon discovered that the virus found in the eruptions on the body was the active agent of transmission, and that persons were easily infected from clothing or anything that had come in contact with or even only been in the immediate vicinity of a sufferer. Later, infection was found to be carried in the air for several hundred yards. This knowledge led up to the segregation of the victims, the destruction of clothing, bedding, and other infected material; and in this manner the spread of the disease was in all probability reduced to some extent.

The fact that persons who had recovered from smallpox rarely contracted it the second time soon became manifest, while in line with this observation there came early in the eighteenth century a slight ray of hope from far India; for it was being reported that natives of that country were wont to obtain pus from victims having a y mild attack of the disease and with this virus inoculated themselves and the children. Such a procedure would usually result in a mild attack similar to that of the one from whom the virus had been obtained; future immunity of course going hand in hand with recovery. This method of immunization, however, was entirely too dangerous to be countenanced in Europe, since the inoculation all too often resulted in extremely severe and even fatal attacks.

At last, in 1792, we come to Jenner's great discovery. Edward Jenner, an English physician, like many others, had given considerable time to a careful study of variola. He noticed that cattle were subject to a disease, known as cow-pox, very similar to smallpox, although much milder in form and very seldom, if ever, causing death; the eruptions appearing principally on the ventral aspect of the body.

Following up this clue, Jenner found that various people employed about cattle with this infection acquired from them like sores on their hands and faces where the skin had been broken, and that these pustules resembled very much the vesicles of human smallpox. These infections were found to cause a certain amount of inconvenience, such as swelling, soreness, and rise of temperature, while, strangely enough, these attacks very seldom were repeated until at least several years had elapsed, and, further, such persons never seemed to acquire smallpox. Thereupon deliberately inoculating a number of persons with this virus of "cow-pox," Jenner found that he could produce an immunity to smallpox of several years' duration.

The causative organism of smallpox remains unknown, but undoubtedly it is identical with that of cow-pox; the latter, having been passed through many cattle, has lost, like the bacillus of bovine tuberculosis, much of its virulence for man. A vast amount of work has been done upon the subject and various parasites, both of bacterial and protozoan nature have been "discovered," but conclusive, proof has never been forthcoming. The two principal theories as to its nature are, first, that it is a bacterium of ultramicroscopic size, thus escaping detection from even our most powerful microscopes; the other, that it is a protozoon, but it has never been isolated from among the many similar bodies present in the virus.

The fact remains, however, that the virus has conclusively been proven a specific prophylactic against smallpox, and that, moreover, though the knowledge of the causative organism would be extremely interesting from a scientific standpoint, the practical value of such knowledge is not great.

Immediately following Jenner's epochal discovery, vaccination was almost universally adopted by the cultural nations, and when it was found to be of real value it became compulsory in many countries, with the eventual result that now we no longer live in constant dread of devastating outbreaks. Although small epidemics still do occur from time to time among the nonimmunes of various communities, they are easily controlled; whereas, before the era of vaccination thousands of people succumbed yearly to this abhorrent disease. It is recorded that in France alone the annual mortality from smallpox ran as high as 30,000.

The early practice of vaccination was rather crude, and in the absence of our present knowledge of aseptic surgery at times some rather grave infections resulted, and sore arms were almost always the rule; for the old-time physician believed in a good and generous scarification, making it at least the size of a fifty-cent piece. (Fig. 6.) Nor was the practice confined to the physicians, many people practicing it as a sort of side-line. Besides, what is known as arm-to-arm vaccination was extremely common; that is, the operator merely used the scab from one person to inoculate another. In this manner naturally organisms of grave infectious diseases, such as syphilis, were occasionally conveyed with the virus. Fortunately this method has been obsolete for many years.

Considering the numerous disadvantages which the early advocates of vaccination had to face, it is not to be wondered at that the procedure aroused considerable opposition. However, with our present-day knowledge and the great care exercised in the production of all biologic products, vaccination is not any more dangerous now than the administration of a dose of quinine or other harmless drug. For all that, it still has its enemies, and these are constantly clamoring for the repeal of all laws making vaccination compulsory.

Commercial Production of Vaccine Virus

In this country, the manufacture of vaccine virus is carried out under the supervision of the United States Public Health Service, with all the care and precaution known to modern science; thus insuring a perfectly pure and absolutely reliable product.

In the production of vaccine virus it is essential that the greatest care be shown from one end of the process to the other. Buildings intended for this purpose must be erected with special attention to all details of sanitation.

The calves used in vaccine work are all selected from vigorous, healthy stock, and they receive the most careful attention and clinical supervision for some time prior to their being put to use. The stables are kept scrupulously clean, and all fixtures are simple and practical, in order that scrubbing may be not only easy but effective.

The fixtures of the operating room are, as a rule, as few and simple as those of the stable.

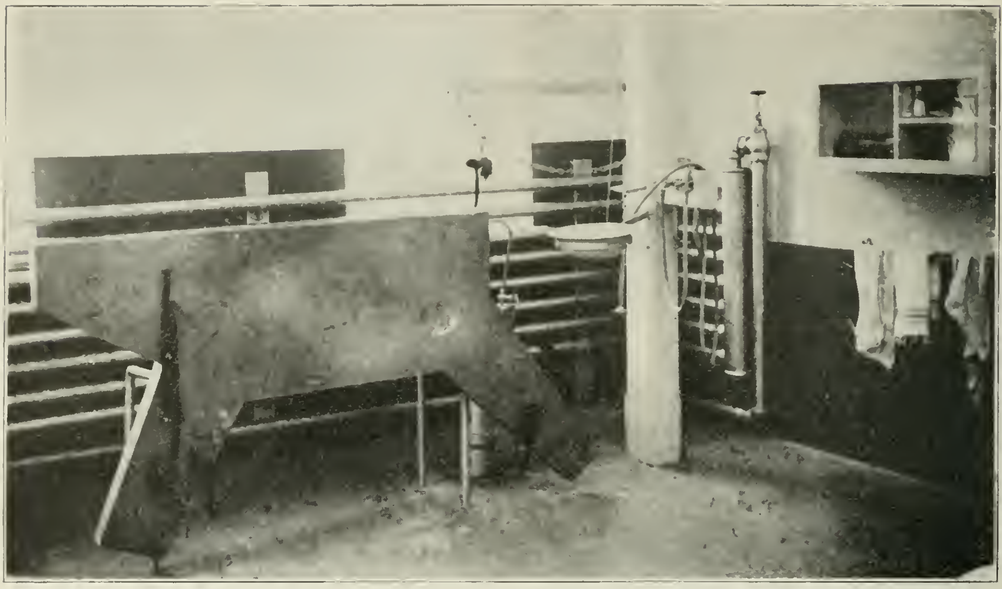

Fig. 1. The Slee hinged operating table, used in inoculating calves

One of the most convenient operating tables that I know of is a simple affair of wood covered entirely with zinc, and is hinged to a stationary iron stand in such a way that it may be tilted to one side, as is shown herewith in Figure 1.

The calf is led up beside this table, strapped into place, and the whole raised into position. The calf being thus placed in a convenient position, the hair is shaved from the entire abdomen and groin. This denuded surface is carefully scrubbed with warm water and an antiseptic soap, followed by several rinsings, to remove the soap which might perhaps interfere with the take. Crosshatched scarifications are then made with an instrument specially constructed for this purpose. Some operators, however, prefer to make long parallel incisions with a sharp spatula. Into these wounds a carefully selected virus is rubbed, and the animal is allowed to remain on the table until the virus is thoroughly dried.

The correct selection of the virus used for "seed" is extremely important. It is always taken from stock which has previously given a high percentage of "takes" and has a thoroughly established purity in respect to foreign microorganisms. Of the keeping up of the virulence of a strain of virus, I shall speak later.

During the incubation period, which extends over about six or seven days, the calves are kept with the greatest care. The heads are secured in stanchions so constructed that the animals may eat, lie down and get up again with perfect comfort and ease, but they cannot turn their heads around to lick the vaccinated area. In place of having bedding, they stand upon racks which may be removed and cleaned. In this way no straw or sawdust comes in contact with the lesion. Temperatures are taken twice daily.

When the pustules have reached the proper stage, that is, when the disease of vaccinia is at its height, the calf is again placed upon the operating table and killed. The vaccinated area is then carefully cleansed of all foreign matter and the vesicles are scraped off with a sharp spoon. This mass is known as the pulp, and it of course contains the virus. The serum has been found to be of little value and is not collected.

Next, the freshly gathered vaccine pulp is ground up into an emulsion with four times its amount of a solution of glycerin in an equal weight of water and passed through a very fine screen. Several rather elaborate pieces of machinery have been constructed for this grinding; still, the best and simplest method seems to be by means of the old-fashioned mortar and pestle.

Naturally, various foreign bacteria are always present in the virus, but the amount of glycerin added is sufficient to destroy many of them and to inhibit further growth of those remaining. Sterile virus may be obtained by the addition of one-half of one percent of pure carbolic acid, but for some reason or other this sterile virus is not as satisfactory as that which does not contain

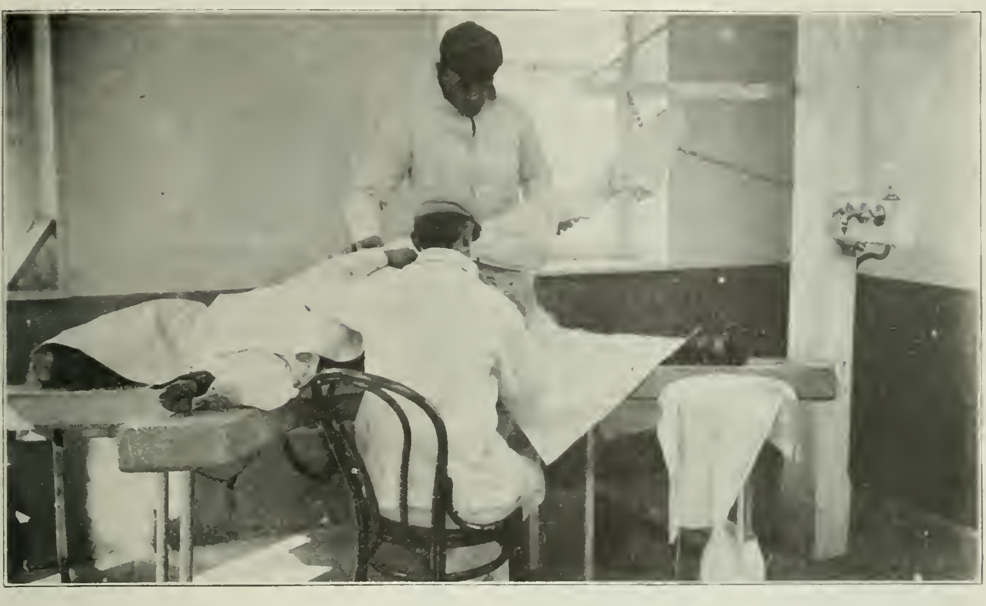

Fig. 2. Operating upon a calf. The small places seen on the abdomen are the sacrifications into which the virus is introduced

phenol. It does not retain its potency for a great length of time, and the percentage of typical "takes" is somewhat lowered.

Of course, no product is allowed to leave the laboratory without its safety having been ascertained. For this purpose, a most careful bacteriologic test is carried out. White mice are inoculated with a full human dose and placed under observation. Cultures are made in fermentation-tubes as well as in ordinary broth-tubes. Plating out on agar-agar and counting of colonies is always done.

Keeping up the virulence of a strain of virus is a rather difficult matter, and it has required many years of study and observation to settle upon an effective method. As with many microorganisms, the virulence of the specific agent of vaccinia for man is diminished on being passed consecutively through a number of animals. It is necessary, therefore, to introduce humanized virus from time to time. This is carried out in the following manner:

Virus from a vigorous and typical human take, after a careful bacteriological examination, is inoculated into a rabbit, and the virus from the rabbit in turn is used as fresh "seed" for a calf; often, though, being passed through a second calf before being employed to vaccinate human beings.

The Preservation of Vaccine

One of the earliest methods of putting up vaccine for the market was that of drying the lymph upon sharp ivory points and goose-quills. Unquestionably this was one of the most convenient methods ever devised so

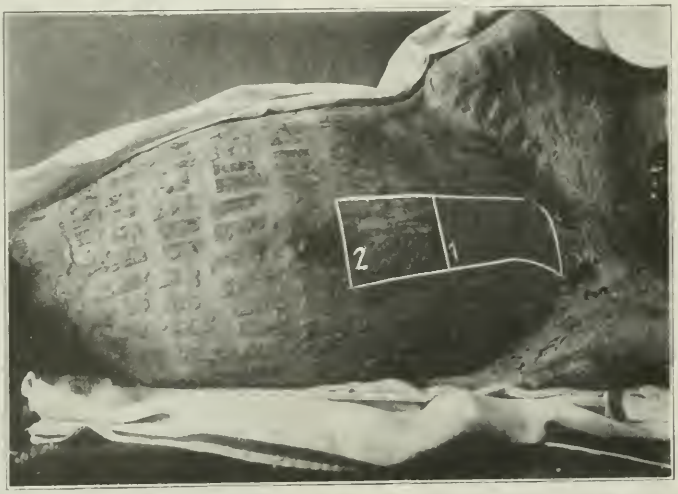

Fig. 3. Typical vaccinia in a calf. Area No. 1 has been painted with tincture of iodine and shows how strong an antiseptic the iodine is; there are only a few isolated vesicles in this patch.

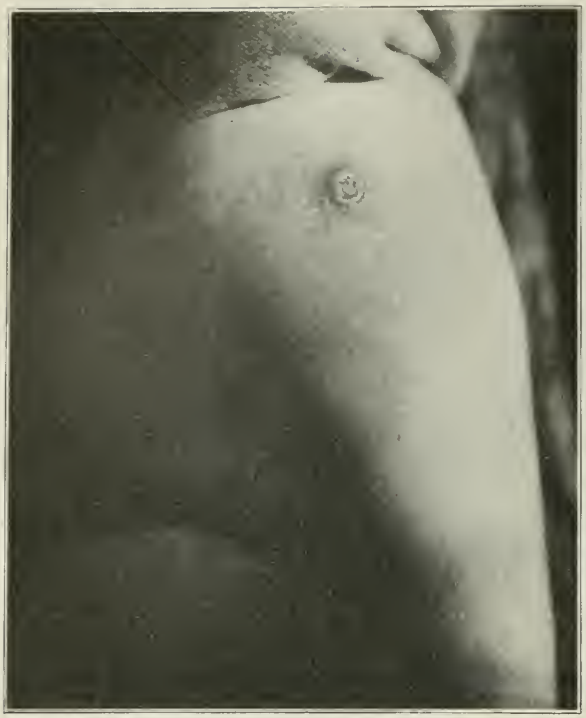

Fig. 4. A good-sized typical vaccination just coming to scab

far as the physician was concerned. All that he had to do was to take this little point out of his snuff-box, pocket, or where not, scratch the baby's arm with it, rub the point over the sore a few times, and feel convinced that this served the purpose of dissolving the dried vaccine and infected the lesion. However, the method was found to be extremely unsatisfactory, because in a large percentage of cases a good typical "take" did not result. The use of dried vaccine has of late been prohibited by our laws.

The method of utilizing the glycerinized pulp as described above was first brought out in this country chiefly through the efforts of Surgeon General Geo. M. Sternberg, U. S. A., in the late 90's. For some time the socalled Sternberg bulb, introduced by Dr. Richard Slee, was used as a container for this product.

This bulb really consisted of a piece of capillary tubing blowed into a bulb at one end. The vaccine was drawn into the tube, but not as far as the bulb. The open end was then sealed in a blowpipe flame. In the package with each bulb was placed a sterile needle for scarification, and a small orange-wood slip with which to rub the virus in. When the physician wished to expel the contents, he broke off the sealed end of the tube and heated the bulb, the expansion of the air driving out the virus. This was a somewhat complicated but nevertheless scientifically correct method.

This Sternberg bulb has now been replaced by the capillary tube, which is in general use today. A small piece of glass tubing is used, of sufficient size to contain about two drops, which is all that is necessary for a successful inoculation. The virus is drawn into these tubes either by suction or by capillary attraction and the open ends are then readily sealed in a blow-pipe flame. This tube, packed with its sterile needle, orange-wood slip, and small rubber bulb with which to expel the virus, all proper and in readiness for instant use, is

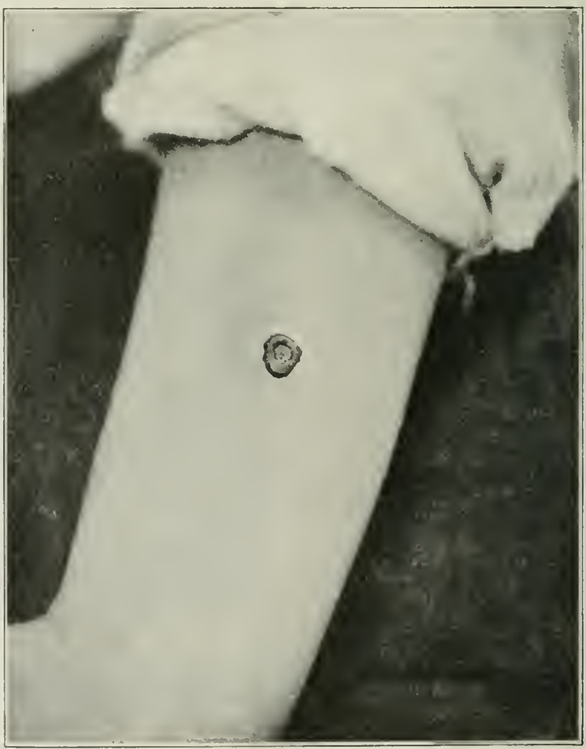

Fig. 5. Vaccination drying up and scabbing over toward the end of its course

the most thoroughly satisfactory package that has ever been offered to the medical profession.

Unfortunately, the keeping qualities of vaccine virus are not very good. It will retain its potency for about six months, but no manufacturer whom I know of cares to date his virus over four months, as it is rather uncertain just how long its virulence will be retained.

The one extremely important factor in the keeping of vaccine is a good refrigerator. The lowest of temperatures does not seem to injure it. It has even been submitted to liquid air without injury, while, if kept for a few weeks in a temperature of anywhere from 60° to 80° F., it deteriorates very rapidly. Probably the most satisfactory temperature for storage is as near 32° F. as can be obtained.

Impressing this latter fact upon druggists and physicians was a rather difficult matter, and I fear that even now in many drugstores the stock of vaccine virus may be found in a drawer under the counter instead of in an icebox. This point, apparently so small and insignificant and, yet, so easily remedied, beyond a doubt is responsible for the great majority of failures in securing a "take."

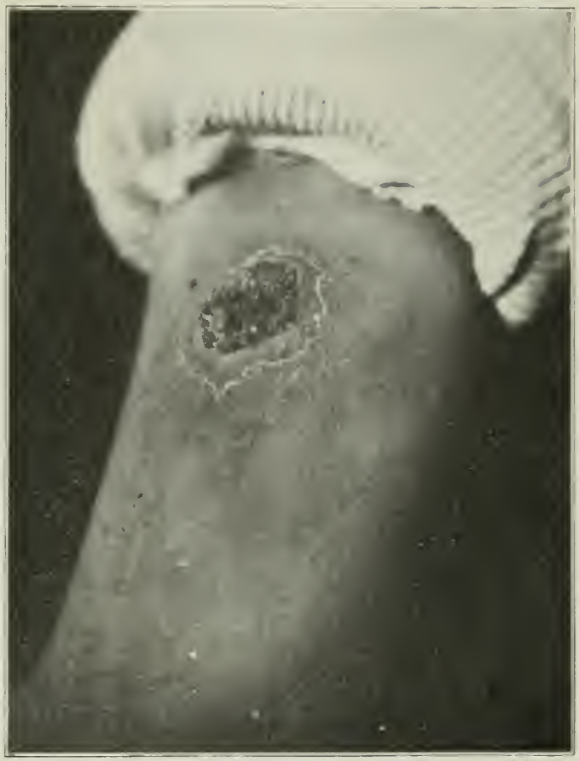

Fig. 6. The undesirable effect of too generous scarifications

Method of Using

The ideal virus to use is one which has aged slightly. The "take" is always less severe, with a marked decrease in the patient's general reaction, but none the less it is typical in its character and thoroughly protective against smallpox.

The inoculation should be carried out with the greatest care. In fact, it should be regarded as a surgical procedure, and, if physicians will regard it and treat it as such, many unpleasant after-results may be eliminated.

The site should be thoroughly cleansed with water and soap, dried, and rubbed with chloroform or ether; even alcohol is very good. This should be allowed to evaporate before the scarification is made. An excessively large wound is not desirable. It merely increases the inconvenience of the patient and does not insure any better result. A small spot not much larger than the head of a tack is really quite sufficient. The drawing of blood should be avoided. On to this scarification the virus may be expelled from the tube and rubbed in gently with the orange-wood slip designed for this purpose and allowed to dry before the sleeve is rolled down.

Tight bandages or shields of any kind should never, under any circumstances, be employed. It is necessary that the circulation be not constricted, and that the wound be open to the air. A piece of clean, light gauze pinned to the inside of the sleeve is sufficient protection.

A few years ago there was a great craze for using shields. Many very objectionable types were brought out, some of which were so constructed as entirely to exclude the air, and, hence, suppurating wounds and very sore arms often resulted. One of the least objectionable of these devices consists merely of a piece of wire so bent that it keeps the sleeve from rubbing against the vaccinated area. However, the straps necessary to retain it in position have been found to impair the circulation somewhat, and this is harmful. Of late years, so far as I know, the use of shields has practically been abolished.

The Materia Medica of Active-Principle Therapeutics

By J. M. FRENCH, M. D., Milford, Massachusetts

EDITORIAL NOTE.—This is the fourth lecture in the series delivered by Dr. French before the students of the College of Physicians and Surgeons, Boston. The three first lectures have been reproduced in the January, February and March numbers of CLINICAL MEDICINE *of this year. We urge a careful reading of the entire series.*

I ONCE heard a physician say, after twenty years spent in the practice of medicine, that his faith in drugs grew less with each year of his practice. Incidentally I noticed that this same man used large amounts of powerful drugs, in spite of his skepticism. But what would you think of a mechanic who should tell you that the longer he worked at his trade, the less confidence he had in his tools? Either he uses poor tools, or he is an incompetent workman. If the fault is with his tools, let him get better ones. If the trouble is with him, let him serve his apprenticeship anew and learn to work with greater skill.

A competent workman ought to have the best tools obtainable, and he ought to become more skilled in their use and able to do better work with them the longer he uses them. The same thing is true with the doctor. It is a poor comment on his ability and skill if, after twenty years spent in the practice of his profession, he cannot do better work than when he first began.

Why Doctors Lack Faith in Drugs

It seems to me that there are two reasons which may account for our lack of faith in our remedies. One is, that we are not using the very best drugs to be had. Perhaps we are employing the crude drugs of our fathers' day, when we ought to be using the active principles of the twentieth century. From herb teas to alkaloidal granules is a long step, but it must be taken if we hope to secure the best results.

The other reason is, that we have not made ourselves masters of the drugs we use. We do not know them as we ought to, we cannot handle them as we should. We do not know them, because we do not study them—as it is our business to do—carefully, critically, thoroughly, constantly. We do not have the skill in handling them that we should possess, because we lack that kind of practice which makes perfect. It is not the number of patients a man treats that gives him experience, but the amount of study, observation, and reflection he gives to each individual case. One man gets more experience out of a dozen cases than another does out of a hundred.

In my student days in medicine, I studied the general subjects of therapeutics and materia medica under two different professors in different schools. Both were excellent men, of good ability and attractive personality. One of them taught materia medica pure and simple—at least, that is the only part of which I have retained any recollection. The list of doses took up a good part of our time, and, so far as I was concerned, were soon forgotten. The origin and physical characteristics of the drugs were described minutely, but what good it ever did me is more than I can tell.

In the olden days, when the doctor gathered his own herbs and made them up into teas, tinctures, and powders, such knowledge was a necessity; but now that the manufacturing pharmacist has taken all these things off our hands and we have to deal only with the perfected and prepared remedies, it seems to me that we waste valuable time in studying these things. As for the real science of therapeutics, he may have told us considerable, but he certainly did not teach me much—much that I have remembered, at least.

The other professor taught therapeutics, and he taught it well. I do not recall that he had much to say about doses or the physical properties of the drugs, but he did teach their uses. He bunched the more important ones into classes, such as cathartics, stimulants, sedatives, narcotics, and the like. He pounded away at the principal uses, until we simply could not forget them. The differences between the virtues of opium and belladonna were explained with care, and then hammered into us, so that they remain in my memory to this day. I learned some things from this man that have stood by me all the years since. I remember that teacher with gratitude to this day.

Now, I have neither the skill nor the time to teach you therapeutics and materia medica in that way. All that I can do, all that I shall try to do, all that I want to do is, to mention briefly some of the principal drugs at present used by progressive physicians, and dwell particularly upon a few of the most important ones, especially those employed in the treatment of fever.

The Armamentarium of the Progressive Practitioner

The active-principle therapeutist chooses drugs which are small in dose, potent in effect, uniform and reliable in action. The majority of these remedies are the active principles of medicinal plants, which he uses more often than any others, and often uses them in a different way and for a different purpose than does his neighbor the crude drugs from which the principles are derived.

Nevertheless, it must be remembered that it is impossible to practice medicine successfully with the aid of granules alone; for there are quite a number of important remedies, such as the iodides, bromides, acetanilid, phenacetin, bismuth, the salicylates, the sulphocarbolates, and many others, which have to be given in larger doses than can be incorporated in granules. For this reason the list which I shall present by no means will represent a complete materia medica.

Most of the remedies named are prepared in granules representing a minimum adult dose; and these, in acute diseases, may be administered every fifteen minutes, every half hour or every hour, according to the severity of the attack, until some improvement is manifested or physiologic effects are produced. The medicines should then be given at greater intervals for as long as it is desirable to keep up the effect. By following this method closely, it is simply impossible to overdose the patient. You will also observe that the method is exceedingly simple, while the labor of committing a list of arbitrary doses is entirely done away with.

Aconitine and Veratrine, to abate fever. Standard granules; crystalline aconitine, 1-800 grain; veratrine, 1-128 grain. These two are the great fever-remedies.

The specific indication for aconitine in fevers is the small and frequent pulse; for veratrine, the full and bounding pulse. This is only another way of saying that aconitine is the preferable remedy in asthenic cases, and veratrine in sthenic ones. They are the remedies especially in the early stages of fevers and inflammation. When they are continued through the later stages, it is frequently desirable to combine with them certain other remedies designed to sustain the heart and nervous system.

For each of these two drugs there are other minor indications, some of them of considerable importance; but those named are the ones for which they are most frequently employed and the only ones of which we will speak at this time. The granules are best given dissolved in hot water, especially when quick action is desired; but under some conditions the granules may be swallowed with a drink of water.

Digitalin, to sustain the heart. Germanic digitalin is commonly used and is a mixture of three of the glucosides of digitalis: digitalein, digitonin, and digitalin. Standard granule, 1-64 grain.

Digitalin is the great cardiac and vascular tonic and stimulant. In moderate doses, it slows the pulse and increases the arterial tension, hence, is indicated when there is a rapid heart-beat and a feeble pulse. It is contraindicated to some extent in aortic disease and in fatty degeneration of the heart. In certain conditions, it may be given in much large doses than here stated. It may be administered hypodermically as well as by the mouth. By reason of its action on the heart, digitalin antagonizes to some extent the fever-processes and so often is given in combination with aconitine and veratrine for this purpose.

Strychnine and its salts, to combat vital prostration. The salts of strychnine most used are the arsenate, sulphate and nitrate,—the latter being the preferable one for hypodermic use. Standard granule, both of the sulphate and the arsenate, 1-128 grain.

Potter states that strychnine exalts all the functions of the spinal cord—reflex, motor, vasomotor, and sensory, the latter being least affected. When it is desired to secure its remedial effects, it should be given in minimum dose every half hour or hour until either the remedial effects or the earliest symptoms of the physiologic action—restlessness and trembling, with muscular twitchings—are manifest, after which it should be given in lessened frequency as long as necessary to continue its effect.

The Two Dosimetric Triads for Fever

These four drugs—aconitine, veratrine, digitalin, strychnine—are the great active-principle remedies for fever. Singly or com bined they meet most of the indications, and do it with an ease and certainty not otherwise obtainable. To accomplish this more perfectly, two combinations, have been added.

The Defervescent Combinations

The first of these is known as—

The Dosimetric Trinity. The formula of this combination is: crystalline aconitine, 1-800 grain; digitalin, 1-64 grain; strychnine arsenate, 1-128 grain.

The second of these antiphlogistic combinations is called—

The Defervescent Compound, and its formula is: crystalline aconitine, 1-800 grain; veratrine, 1-128 grain; digitalin, 1-64 grain.

By the action of the dosimetric trinity, the heart is sustained and the nervous system toned up. I know it often is taught—and presumably you have been so taught—that tonics for the heart and nervous system should never be given in fever until there are evident manifestations of failure of these organs. That is to say, digitalis should not be given until there are signs of heart failure; strychnine not until vital prostration supervenes. This seems to me like saying that a man should not go to work to earn any money until his means are entirely exhausted, or as if a doctor were to advocate going without food until serious weakness had set in.

Let us take a case of serious febrile disease, pneumonia for example. If we know anything of the natural history of this disease, we know that its usual course is to go on until the vital forces are prostrated, and that the especial danger to be expected is from weakness of the heart. Is it, then, the wise course to employ no measures to guard against or to prevent this condition?

Shaller, speaking of strychnine, says: "All schools of physicians use but one medicine to stimulate paralyzed nerves and to restore paralyzed muscles, and that medicine is strychnine. There is no other medicine but strychnine that can so effectually stimulate the vital functions and arouse nerve-force. If strychnine is a proper remedy to use to cure paralysis, it is also a proper remedy to use to prevent paralysis." The same or a similar argument may be advanced with reference to digitalin. Both these remedies many times are given in conditions of comparative health, and are considered the best tonics we possess for their respective purposes.

Given, then, a fever which, if unchecked, is sure to produce the conditions calling for strychnine and digitalin, it seems to me that it is the part of wisdom to use them in minimum doses before the danger is imminent, and thereby prevent in many instances the urgent demand otherwise evidenced later in the disease.

In the treatment of fever, then, the remedies at our command will be utilized in the various conditions somewhat as follows:

In the early stages of fevers not of a sthenic type, give aconitine; if markedly sthenic, veratrine; if the fever is high, the pulse full and bounding, and the patient a vigorous adult, the defervescent compound; if the conditions are asthenic, and the patient not vigorous, or in any case where there is reason to anticipate heart weakness, and always in old persons, the trinity granule. As the fever progresses, change from the one to the other as conditions may indicate.

And remember, that you do not need to wait for the diagnosis of typhoid fever or scarlet-fever or pneumonia before beginning this, the essential, treatment of the febrile process. A definite diagnosis, as it shows additional symptoms and conditions, will call for additional remedies; but the essential fever is the same in all and requires the same treatment.

Two Valuable Expectorants

Apomorphine and Emetine, as expectorants and emetics, each with special indications for its use.

As an emetic, apomorphine is best given hypodermically, in doses of 1-16 to 1-10 grain. As an expectorant, it is specially indicated where the sputum is thick, viscid, and tenacious, when it may be given every fifteen minutes until relief or nausea.

It is well to bear in mind that apomorphine gradually turns to a light-green color this gradually deepening to a dark-green, this being hastened when it is exposed to the air. This discoloration may be prevented by the addition of a few drops of vinegar to the solution; still, there is no evidence that the medicinal properties of the drug are at all affected.

Emetine possesses to a certain extent the properties of ipecac, but is less irritating and causes less disturbance of the digestive tract. It is seldom used as an emetic. As an expectorant, it is indicated by deficient bronchial secretion, with tough and adherent sputum, and a dry, harsh cough.

Emetine frequently is combined with apomorphine, and to these two may be added codeine, in similar dosage, more especially when there is an irritative cough. This makes one of the most effective and reliable cough remedies of which I have knowledge, and it can be prepared in a few minutes at the bedside.

Aloin, Calomel, and Podophyllin, to increase the secretions of the various portions of the intestinal tract. Standard granules: aloin, 1-12 grain and 1-6 grain; calomel (usually given in tablet form), 1-10 grain; podophyllin, 1-64, 1-12, and 1-6 grain.

Saline Laxative, as a laxative and cathartic of almost universal applicability. A granular effervescent preparation of sulphate of magnesium. An indispensable aid in "cleaning out, cleaning up, and keeping clean" the intestinal canal.

Atropine, Hyoscyamine, and Hyoscine Hydrobromide, to combat spasm and to allay irritability. Standard granules: atropine, 1-500 grain and 1-250 grain; hyoscyamine, 1-250 grain; hyoscine hydrobromide, 1-1000 grain. All these belong to the mydriatic group.

Atropine is a cardiac and respiratory stimulant, relaxing the minute capillaries and sending the blood to the surface. Hyoscyamine is mildly hypnotic and sedative. Hyoscine is more powerfully sedative and hypnotic, and is indicated in all motor excitation.

Berberine and Quassine, as simple bitters of general applicability. Standard granules: berberine, 1-64 grain and 1-6 grain; quassine, 1-64 grain.

Berberine is the most widely distributed bitter principle in the plant-world. In addition to its valuable properties as a stomachic tonic, it possesses the property of constringing connective tissue, this rendering it of exceptional value in all relaxed and catarrhal conditions of mucous membranes Quassine is one of our best stomachic tonics.

Cactin, a concentration from cactus grandiflorus, as a valuable heart tonic. While of proven efficacy, cactus in medicinal dosage is without appreciable physiologic action and for that reason condemned by socalled authorities. Cactin is especially indicated in irregular pulse and nervous conditions of the heart. Standard granules, 1-128 grain and 1-64 grain.

Caffeine, as an unequaled brain stimulant. It promotes the flow of thought and increases the mental activities, without being followed to any considerable degree by depression. The salts (so called) of caffeine in vogue are the arsenate, benzoate, citrate, and valerate. Standard granules of either: 1-64 grain and 1-6 grain. Very much larger doses may be given, though. The sudium benzoate is best adapted for hypodermic use, for which purpose the ordinary dose is 1 grain.

Echinacea and Calcium Sulphide, as our best systemic antiseptics. Both drugs are of great value in averting and overcoming sepsis in its various forms. The standard tablet of echinacea (echinacoid) is 1-2 grain; and the standard granule of calcium sulphide is 1-6 grain. Calcium sulphide, however, may be used freely in 1-2 and 1-grain doses. Nevertheless, Doctor Abbott claims and experience amply has proven, that the granule form preserves the virtues of the sulphide far better than when made into tablets. Moreover, there is a vast difference in the quality of the various preparations offered the doctors —some being utterly worthless.

Arsenic, in its several forms, as the great alterative. The salts of arsenic commonly employed are the bromide, iodide, and sulphide. Standard granule of either, 1-64 grain.

Coniine (Cicutine) and Solanine, as antispasmodics and motor sedatives. Standard granules: cicutine, 1-128 grain; cicutine hydrobromide, 1-64 grain; solanine hydrochloride, 1-64 grain. Solanine is especially valuable in some cases of epilepsy.

Codeine and Morphine, as anodynes. Standard granules: codeine, 1-64, 1-12, and 1-6 grain; morphine hydrobromide, 1-64 grain; morphine hydrochloride, 1-64 grain, and 1-12 grain; morphine sulphate, 1-64, 1-12, and 1-4 grain. Codeine is especially valuable in irritative coughs.

Copper Arsenite and Zinc Sulphocarbolates, as intestinal antiseptics and as antizymotics. Standard granules: copper arsenite, 1-1000 grain and 1-250 grain; zinc sulphocarbolate 1-6 grain. Also, tablets of zinc sulphocarbolate: 1-2, 1, 2, and 5 grains.

Ergotin, Hydrastine, and Hydrastinine, to constringe unstriped muscle-fiber, as well as to quicken the heart. Standard tablets of ergotin, 1-6, 1, and 2 grains. Standard granules of hydrastine, 1-64 grain; of hydrastinine hydrochloride, 1-12 grain.

Scutellaroid and Cypripedoid, concentrations of scullcap and lady's-slipper, respectively, as mild sedatives, anodynes, and nervines. Standard granules: scutellaroid, 1-6 grain; cypripedoid, 1-12 grain.

Iron, and its salts, to enrich the blood Standard granules of the salts of iron, 1-64. 1-12, and 1-6 grain.

Quinine, and its salts, to antidote malaria. Standard granules of quinine arsenate, which is the salt preferred by dosimetrists, 1-64 and 1-6 grain. Burggraeve claimed that quinine heightens the tonicity of the tissues; and this perhaps may account for its action in preventing and aborting colds.

Nuclein and Lecithin, to strengthen the defensive forces of the system. Dose of nuclein, 1-2 to 2 drops; of lecithin, 1-2 grain.

Glonoin, to relax the capillaries and quicken the heart. Standard granule, 1-250 grain. This remedy acts very quickly when given by the mouth—more so when absorbed from the buccal cavity.

Arbutin, to remedy all catarrhal and suppurative conditions of the mucous membrane of the genitourinary system. Standard granules: 1-64 grain and 1-6 grain. Tablet, 1 grain. In small doses arbutin is diuretic and tonic to the mucous membranes; in medium doses, useful in subacute and chronic cystitis and to restrain the loss of albumin in nephritis and pus in pyelitis and other forms of pyelitis. In large doses, a stimulating diuretic, and strongly antiseptic. Useful in cystitis.

Aspidospermine, to relieve dyspnea of every kind—bronchial, cardiac or nervous.

This alkaloid from quebracho sometimes is called "the digitalis of the respiratory organs." Standard granules, 1-64 grain and 1-12 grain.

Bryonin, to stimulate absorption and relieve pleuritic pains. A remedy for serous membranes. Standard granule, 1-64 grain.

Cantharidin, to overcome atony of the bladder. Standard granule, 1-5000 grain.

Gelseminine, to combat febrile conditions, when associated with bright eyes, flushed face and great nervous tension. A remedy especially in diseases of children. Standard granule, 1-250 grain.

Pilocarpine, to produce diaphoresis. The most powerful agent for this purpose that we possess. Standard granule (of the nitrate) 1-250 grain.

Potassium Dichromate acts as an alterative to mucous membranes, particularly of the respiratory tract. Standard granule, 1-64 grain.

Sanguinarine acts as a general tonic and expectorant; also is a sexual stimulant. Standard granule, 1-64 grain.

Iodized Calcium, to combat membranous laryngitis (true croup), catarrhal laryngitis, and all forms of colds, especially those affecting the throat. Iodized calcium also produces the systemic effects of iodine without giving rise to the phenomena of iodism. Standard tablets, 1-3 grain, and 2 and 5 grains.

Creosote, to serve as a respiratory antiseptic and an antituberculosis remedy. Standard granule, 1-64 grain. It may be given in much larger doses, however.

Phytolaccoid acts as an alterative and absorbent in glandular enlargements. Standard granule, 1-6 grain.

Salicin acts as a sexual sedative. Standard granule, 1-6 grain.

A Few Reflections

It will be observed that in a considerable proportion of the remedies named only one single use, either a general or a special one, is named for each drug. This is in accordance with the belief that it is advisable to select the most important action of any given drug or the object which it serves in a more direct and positive way than does any other drug, and to make this the keynote for that remedy.

Thus, for instance, we have "quinine, to antidote malaria." Now, quinine serves many other purposes, some of them quite important; but not one of the unnamed applications compares in importance with this particular one, while in no other condition are the results so superior to those which can be secured by means of any other known drug as in this common and serious condition of malaria. Then there is glonoin, "to relax the capillaries and quicken the heart." In the case of this drug the purpose named is practically its only use, but it fulfils that far better than any other known remedy, at least in an emergency.

By adopting this plan, the principal use of a drug is readily learned and quickly brought to mind when required. Moreover, the other and minor uses will easily take their places as they are needed. Still other drugs are used practically for only one indication, and that a limited one. For example, agaricin is useful to prevent excessive perspiration (night-sweats); and this is the favorite although there are other drugs for that condition. I am not aware that agaricin is prescribed for any other indication.

It would seem, then, that the natural method of studying drugs is the best one. Find out first its most important use, the purpose which it serves better than any other remedy. As other uses are developed, let them take their proper places.

Sometimes, however, a more perfect knowledge lessens, instead of increasing, the number of uses of a drug. Thus alcohol was formerly recommended for nearly every diseased condition known to man. It was thought to protect one from the cold of winter and from the heat of summer; it was used to strengthen the weak and to comfort the afflicted; to increase the appetite and promote digestion; and to take the place of food and prevent the pangs of hunger; to relieve pain, assuage grief, overcome melancholy; to prevent heart failure, bring about reaction in shock, bridge over the crisis in fevers, destroy the germs of infectious disease.

But of late years physicians have gone more closely into the physiologic action of alcohol, while they also have learned more of other substances to produce the various results formerly thought to be secured by this one; with the result that the internal remedial uses of alcohol are now practically limited, among up to date scientific physicians, to two—to dilate the capillaries and quicken the heart, in small doses, and to benumb the sense of pain and produce easy death, in larger ones. But even here the first-mentioned use is better met by nitroglycerin, and the second by morphine. We now have perhaps a dozen drugs, each of which takes the place of alcohol in some one of its uses, and does that work better; not one of them, though, will accomplish all the results ascribed to alcohol.

The Value of Experimentation

As practitioners of medicine, after passing your examinations, it will be your privilege, and, I believe, your duty as well, to be real students of the action of drugs. You should not only learn what the books have to tell you of these things, but you should try to enlarge to some extent the bounds of knowledge. To illustrate how you can do this.

For the last ten years I have been studying experimentally the properties of a little-known drug, the verbena hastata. This is not a very important drug—it is not even entitled to be called a drug of the second class. Most of the uses which formerly were ascribed to it by the few books mentioning it at all are better met by other remedies. But I learned, a dozen or more years ago, that someone had used this humble herb—the blue vervain—with apparent success in certain cases of epilepsy. Now, epilepsy is a disease in the treatment of which a large number of remedies have been tried, but not one of them with any great satisfaction (even the bromides often do more harm than good), and so it seemed to me that the claim was worth trying out. Just to what forms of this malady the herb was best adapted, no one seemed to know—and this, then, was the problem which I set for myself to solve.

I began to prescribe the verbena hastata for a woman who just then had been made distinctly worse after a course of the well-known "compound-bromide treatment." The result of my experiment was favorable—so favorable, indeed, that the patient has continued the use of the verbenin from that day to this, for the reason that, while it did not wholly cure her, it has enabled her to control the manifestations of the malady more fully than any other treatment she has ever tried, and that with absolutely no unpleasant by-effects. I then tried this remedy in the case of another patient, who had been somewhat improved under the bromide treatment but desired to avoid the very unpleasant incidental effects of that drug. Here verbenin not only failed entirely, but made the patient distinctly worse.

As a result, I adopted tentatively as my first indication for giving verbenin: "when patients have been made worse rather than better by the bromides." That was a broad rule, but the experience in ten years of further trial of the remedy has confirmed it. Meanwhile I have continued my study of the action of the drug in similar cases, until I now have five indications by which to judge as to its applicability; and further use will, no doubt, develop others, and perhaps modify some of these five.

In the meantime I came upon another drug—solanum carolinense—of greater power but very unlike in action, which I have found to fit in a large number of those cases in which the patients were not helped by verbenoid; so that in these two drugs, verbena hastata and solanum carolinense, or their representatives, I have been able to benefit a large proportion of all the epileptic patients who have come under my care. But, in all my use of these remedies, it has been my constant study to determine the special indications, or, if you please, the particular class of cases, for which each one was fitted. It is in this way, it seems to me, that every physician can and should do his part in broadening the common knowledge of our profession.

Some Questions Regarding Tuberculosis

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I. General Problems of Prophylaxis

THE problems to be considered in this paper are four in number and will be discussed seriatim under the head of as many questions, as follows:

Is Tuberculosis Hereditary?

1. To what degree is tuberculosis a hereditary disease?

Practically all authorities agree that strictly and obviously congenital tuberculosis is exceedingly rare. Such cases, while literally hereditary, do not fulfil the essential conception of hereditary transmission, but are strictly contagious. It is quite conceivable however, that analogous cases exist in which the tuberculosis exists from fetal life, but in a latent form until much later.

It is important, both theoretically and practically, to distinguish these cases from those conforming to the ordinary conception that not the disease itself but a marked tendency to it exists, or rather to determine the reality of heredity in either sense.

As about ten percent of all deaths occur from tuberculosis and as about a fifth of all deaths not due to the infirmities of the extremes of life and to violence are from this cause, it would seem that anything like a constant hereditary tendency would long ago have exterminated the susceptible families.

The frequency of the disease obviously forbids the use of the word family in the genealogic sense. There is probably no one in a country where tuberculosis has been endemic who has not had several tuberculous ancestors. There is ample observation to show that, on the one hand, tuberculosis frequently develops in persons without an immediate tuberculous heredity and, on the other hand, that members of tuberculous families escape.

Considering the fact that members of the same immediate family are subject to the same environment, liabilities to infection, and dietetic and hygienic causes predisposing to successful implantation of bacilli as well as to direct contagion from a single familiar case, it seems a rational conclusion that heredity is not a factor, except rarely, in the direct sense and for a general predisposing tendency amounting to the fact that the children of tuberculous parents are rather liable to be feeble, even if born before the tuberculosis develops in the parents. But it is important to bear in mind that lack of tuberculosis in the family does not guarantee the individual against the disease, and also that its presence does not necessarily determine a similar fate.

How Far Is Tuberculosis Infectious?

2. To what extent is tuberculosis an infectious and to what extent a contagious disease?

It is almost inconceivable that the profession is mistaken as to the existence and pathogenic significance of the tubercle bacillus. Hence, tuberculosis certainly is an infectious disease. Moreover, a germ which requires no special phase of a life-cycle to determine its pathogenicity and no peculiar mode of implantation or recondite state of receptivity belongs, in a general sense, to the contagious group.

The almost interminable dispute as to whether tuberculosis is contagious or not depends mainly upon definitions, and on definitions not clearly stated. If one is asked to name, off-hand, a typically contagious disease, he will answer: measles, scarlet-fever, influenza, or some similar easily conveyed infection.

Analyzing the common conception of a contagious disease, we are reduced to the paradox that it is one so readily conveyed as not even to require contact. Gonorrhea is often cited as a disease peculiarly due to contact. But, while it is literally contagious, it requires—with some exceptions—conditions for its transmission, just as limited as the bite of a mosquito for malaria and yellow-fever, as the hermetic, anaerobic sealing of the implanted germ in tetanus, and, hence, is just as truly and practically innocuous for the attendant and chance associate as these latter diseases, which are defined as infectious but not contagious.

Now, in the case of tuberculosis, we should save trouble by dropping the term contagious altogether and getting down to hard facts.

Few competent persons will dispute that these facts are about as follows:

(A) Almost all cases of pulmonary tuberculosis, about 90 percent of nonpulmonary cases in adults, and probably 50 percent of nonpulmonary cases in infants and young children are due to preexisting human cases of tuberculosis.

(B) The tubercle bacillus as it leaves one patient is perfectly competent to infect another, and it remains potent for a variable time, depending upon environment.

(C) Excepting under very peculiar conditions, practically amounting to a sole conceivable original case, one can not expect to demonstrate that a particular patient has been the source of disease in another. Owing to the slow development of the disease and the possibility in the great majority of instances of a multiplicity of sources, we can not say either that a certain degree of association with a case is dangerous or safe, although there is a tendency at present to lay down rather arbitrary rules in this regard and to ridicule avoidance of a human case under certain regimens of management.

The writer leans strongly toward a justification of phthisiophobia. He does not believe that any patient can be "cleanly" in the sanitary sense, but believes that in the millions of individual contacts of hands with portals of exit of bacilli and with dishes, linen, furniture, etc., a bacteriologic slip will sooner or later occur. Besides this, coughing, sneezing, urination, defecation, and so on, will ultimately produce fomites. Leprosy was practically exterminated from Europe, centuries before bacteriology and sanitary science were developed, *by isolation*; and isolation is the only practical means that at present is attainable for exterminating tuberculosis.

The Causes of Tuberculosis

3. What is the relative weight of the essential cause of tuberculosis and of predisposing causes, in the practical determination of the disease?

With the possible exception of certain infections not prevalent in this country, but not excepting certain diseases, like cancer, which may or may not be infectious, tuberculosis is the only specific infection in which the general state of the health and resistance of the body as ordinarily gauged has anything to do with susceptibility.

This sounds like a rash and inconsidered statement, but it is made after a careful checking off of the list of infections. Note that it does not allude to established immunity as for the semelincident diseases (exanthemata, typhoid fever, etc.); to local susceptibility, as of the tonsils, etc., for diphtheria; to circulatory conditions, as for pneumonia; to caution, as for the venereal diseases, typhoid fever, etc.; to conditions due to age, sex, etc., as for typhoid fever, the lesions of the uterus predisposing to cancer (if an infection), etc.

There is a popular, even a professional idea that typhoid fever is favored by exhaustion; but, if so, the rule is not dependable in either direction. Healthy children are not spared by the exanthemata; if anything, they are rather predisposed because more liable to encounter cases. Until recently, pneumonia cases were commonly treated in wards with consumptives, without any notable tendency to infection. Certainly good general health is no safeguard against venereal infections.

The evidence, as taken by observation, experience, etc., may not convince all, as it has the writer, that tuberculosis is unique among specific infections, in depending largely upon the general state of the health; but the writer feels justified in stating this opinion. At the same time, the writer would expressly qualify this opinion by the observation that, at present, we judge of general health and resistance by very superficial and inadequate measures. Fatness, heavy muscular development, large chest expansion, and so on, do not by any means protect. The flat chest has been shown by actual statistics to be less common in consumptives than a round thorax—not referring at all to the late development of emphysema. Blondness is certainly not a predisposition, and it is an open question whether the types of tuberculous diathesis formerly regularly described have any weight at all, except as some of the items refer to results of undetected disease or to deviations from normal circulation and lymphatic and hemic development.

There is a degree of "wiriness" and resistance quite compatible with muscular weakness, apparent lack of nutrition, at least in regard to the deposit of fat, even with anemia and catarrhal tendencies. The Indian, an open-air liver up to very recently and largely so at present, seems to be highly susceptible to tuberculosis, although perhaps on account of a sudden change to civilized life and an indifference to sanitary and hygienic measures.

On the other hand, the Jew, long accustomed to indoor life, under conditions of bad housing, bad ventilation, overwork, inadequate pulmonary exercise, and stunted development is relatively immune. Yet, with all these exceptions, resistance or susceptibility to tuberculosis seems to depend, as do these factors, for no other specific infection, upon general states of health.

Some sociologists have gone so far as to regard tuberculosis as a scavenger of the race, removing the physically and mentally, and to an extent even the morally unfit. Excepting in the extreme Spartan sense, the writer would disagree most heartily with this dictum. Some of the best minds have been in bodies afflicted with tuberculosis. Many apparently and probably actually susceptible persons, if protected from infection, gradually attain vigor. To a very large degree the general physical factors determining susceptibility are transient—colds, periods of exhaustion, temporary depression by other infections, diseases of totally different nature, even traumatisms.

Thus it is no real inconsistency to hold, on the one hand, that tuberculosis is dependent, as is no other specific disease, upon general depressed conditions; and, on the other hand, to emphasize the importance of removing, even by such extreme measures as isolation, the possibility of fomites of infection with the tubercle bacillus.

These general problems connected with tuberculosis lead to others, more detailed and less easily answered. For example:

Restriction of Reproduction

4. What restriction on procreation ought to be imposed, with the special object of eliminating tuberculosis?

It is easy to say that tuberculous and feeble persons should not marry. But, short of actual tuberculous disease, can we lay down rules?

In an apparently healthy individual, has a "tuberculous-family history" any weight? Is there anything to "diathesis" (with the qualifications already made)? Is there any period of life of the parent which especially favors the development of tuberculosis in the offspring—barring obvious immaturity and senility? Is there any strictly racial tendency not accounted for by environment, habits, and other factors? Are there mutual relationships between the two parents, as respective ages, consanguinity, race, and so on, to be considered?

There is a prevalent opinion that the husband should be somewhat, but not too much, older than the wife. Is this merely a sentiment or has it a physical basis, particularly with regard to tuberculosis?

There is an almost unanimous sentiment against consanguineous marriages; yet, historically and by their legends, actual incest is shown to have been prevalent in most primitive peoples, even the most vigorous. To-day, incest is almost a negligible factor, except criminally, but consanguineous marriages involving some degree of cousinship are fairly common. The writer's personal—although by no means original—opinion is, that cousinship merely concentrates the chances of heredity of certain strains. The child of first cousins has three instead of four different grandparents. If the cousinship is double, the offspring has only two grandparents. If the parents are second cousins, the same ancestor occurs in two different generations.

At present, we have little, beyond theory, as to the actual bearing of heredity in general and concentrated heredity in particular upon any ordinary physical condition, although much statistic information as to the evil results in regard to moral and mental proclivities and neurotic taints of various kinds. It is true that there are frequent reports of mental and neurotic cases ascribed to consanguinity of parents without neurotic taint, but the conclusion is unwarranted unless carefully controlled by a study of ancestry on a large scale. The fact seems to be that the United States was established by the children of not very remote cousins, and a considerable degree of inbreeding probably exists, and has existed, in every community that has been fairly stable as regard immigration for a century or more, anywhere.

Regarding race, the opinion has already been expressed that differences in susceptibility are due rather to environment, habits, the existence of a large supply of susceptible material owing to sudden changes in manner of life or opportunities for exposure, or the removal of susceptible material and the survival of the fittest during a protracted persistence of the same factors of environment and population. As in regard to age and consanguinity, the same problem of relationship of race in the parties to a marriage arises. Here again we have certain popular notions which may be dismissed as mere prejudices so far as hygiene is concerned, and, yet, it is perfectly possible that careful study may indicate desirable and undesirable lines of hybridism.

It must not be forgotten that race means cousinship. For instance, the word Yankee, as a racial designation, is limited to a period of 282 years at the most; and for the last 140 years the Yankees have gradually spread over a large territory. Yet the chances seem to be about one in four that any Yankee can trace relationship to any other, providing of course that they have kept track of a reasonable number of ancestors apiece.

A national term, however, does not necessarily represent race. For example, England early in the seventeenth century was only about 500 years removed from a state of unamalgamated races. The colonial Americans, who have only recently begun to intermarry with more recent immigrants, are already nearly three hundred years advanced toward a state of amalgamation.

Most of the European nations represent quite distinct races in each. Up to a century ago, barring infrequent tides of migration on a large scale, conditions were such that nearly every county or locality tended to the formation of a subrace by intermarriage. Moreover, until recently, class has determined inbreeding as much as, or more than, national designation. Royalty and the high nobility really represent a race by themselves, even more strictly than such aggregations of people as are designated German, French, Spanish, and so on. The present king of England is said to be the first for almost two hundred years who has not spoken with a marked German accent.

If two Joneses should, properly, not marry, there should theoretically be the same objection to the marriage of two persons of the same distinct race, and for exactly the same reason. So, too, if there is an advantage or a disadvantage in the union of two family types, then, certainly, there should be similar advantages or disadvantages in the union of two racial types.

But all such theorizing may be met with the fact that physical and mental proclivities are not very accurately indicated either by family or by racial names.

The Differential Diagnosis of Indigestion

By AUGUSTUS K. DETWILER, M. D., Omaha, Nebraska

AN ANALYSIS OF THE SYMPTOMS

INDIGESTION is perhaps the most frequent and most serious complaint that comes before the general practitioner, and its accurate diagnosis the most important problem that confronts him. Its importance is so great and its causes are so far-reaching that it well repays, in a practical way, careful study.

We wish to discuss the variations in the symptoms as they occur in ulcer and cancer of the stomach, in duodenal ulcer, gallstones, and appendicitis.

Pain is the most important of all the symptoms of indigestion, for in the majority of cases it is the pain which forces the patient to seek the physician, even if it be not the first symptom to appear. Its onset is so gradual that the discomfort or even real pain, which the patient describes as indigestion, may be present for months or even years before relief is sought. As a rule, in the forms of diseases we are considering, the patient merely complains of painful dyspepsia, when, as a matter of fact, careful analysis of the symptoms may disclose lesions of a most decidedly different nature.

In *gastric ulcer*, the onset of pain is gradual. There is complaint of slight discomfort following soon after the taking of food, and it is at first distinctly local and confined to the epigastrium; but soon it is more general and, in fact, becomes a constant positive pain. This may radiate to the right or left, and usually is described as of a burning or boring character; and the longer it has existed, the more the radiation spreads. Generally it passes through to the back, and may be felt under the scapula at the level of the seventh or eighth dorsal vertebra. The important fact about the pain of gastric ulcer is, that it is relieved by the emptying of the stomach; for which reason it is generally connected with the ingestion of certain articles of food that commonly are regarded as indigestible.

Another peculiarity of this pain is, that the attacks, which may continue for days or weeks, are likely to be followed by spontaneous partial relief for two or three months. Always the pain is the constant feature, while the attacks are but exacerbations. The time of the onset of the pain after taking food is variable: in some patients it may occur at once, even before the meal is finished; in others it may not be felt until several hours after eating, and in this resembles the pain of duodenal ulcer. The time of onset is regarded as pointing to the site of the ulcer, occurring earlier when the lesion is seated near the cardiac end, and later when in the pylorus and cap of the duodenum.

In *gastric cancer* very marked differences are noticed in the character of the pain; but it must be remembered that cancer may occur in the site of an old ulcer or it may arise even when the stomach apparently is free from any trace of disease. Many times there is a history of previous attacks in which the pain was typical of gastric ulcer. In later attacks, however, the character of the pain changes, the intervals of freedom from it (between meals) shorten and eventually disappear altogether so that the pain is constant, although it may still grow worse after eating. Still, in every instance there is constant, albeit slight, pain.

When a patient has been free from gastric trouble, the age at which the pain appears is highly important, for cancer occurs most commonly after the age of forty. There are many people, however, past that age who have dyspepsia, without demonstrable organic changes; but such patients usually have been troubled more or less with indigestion all their lives. Nevertheless it is a fact that serious organic disease should be strongly suspected when symptoms of chronic gastric indigestion appear after the age indicated. It must not be forgotten that cancer may occur at a much earlier age. When present, the first symptom observed is usually a sense of discomfort, becoming more definite after eating and especially being more marked after solid than liquid foods. It is important to note that few cases are distinctly typical, while particularly in those following gastric ulcer the pain can not be easily differentiated.

In *duodenal ulcer* the pain may be quite distinct from that of gastric ulcer or of cancer. The age at which this lesion begins may be at any time between two and seventy years or later. The nature of this socalled "hunger-pain" has long been recognized.

The patient—usually a man—complains of pain coming on about two or three hours after eating, commencing with a vague sense of discomfort in the upper abdomen and gradually passing into a definite pain; this may be relieved by belching of gas or it may become more severe and extended, radiating through to the right side of the back. At times it is located entirely on the right of the median line and hard to distinguish from biliary colic. The most important feature is, that ingestion of food relieves it. It may occur at night and keep the victim awake, so that these patients often take food to bed with them or carry it in their pockets. Alkalis as well as food relieve the attack.

When the gastric ulcer is located near the pylorus the pain may not appear until long after eating and thus be difficult to distinguish from duodenal ulcer. The peculiarity of this duodenal pain is, that it may last for several days or even weeks, and then be followed by complete cessation for weeks or months; as time passes, however, the intervals of freedom from pain become shorter and the attacks longer, but it is only in the later stages that the pain is constant.

Chronic cholecystitis and *gallstones* give rise to pain located in the epigastrium and right hypochondrium. After partaking of food there is a sense of fulness, often associated with flatulence relieved by loosening the clothes. The sense of distention may become a dull ache or gnawing pain, according to the nature of the food. When cholecystitis is marked, the attacks of pain are radiated from the right hypochondrium and epigastrium to the back and shoulder. Like the pain in gastric and duodenal ulcer, the attacks are periodical, lasting for a week or two, but are worse at night. In some instances the pain may be most marked in the right iliac fossa, so that appendicitis is simulated, but at times both may be found together.

Appendicitis and Gastric Disturbance

Recently it has been shown that there is a very close relationship between *appendicitis* and gastric complaints. In many cases of dyspepsia no lesion of the stomach, duodenum or gall-bladder could be found, but they were fully explained by the discovery of some lesion of the appendix.

Moynihan gave a full account of the symptoms and showed how they resemble gastric ulcer, and how these conditions may be distinguished. Later, Fenwick described the presence of hyperchlorhydria in cases of appendicitis. He states that ulcer of the stomach may actually follow prolonged hypersecretion due to the appendix disease, in the simplest form of the complaint, and that the continuous flow of this hyperacid gastric juice is likely to excite an inflammatory change in the stomach and be followed by a real ulcer of the stomach or of the duodenum. Patterson, in a recent publication, gave this the name of "appendix-dyspepsia," and showed that there was a lesion of the appendix in sixty-six percent of the cases in which duodenal ulcer was present at operation, suggesting that appendicitis was a cause of duodenal, as well as gastric ulcer. Moynihan states that in every case of gastric or duodenal ulcer the appendix should be examined.

In the majority of instances, *gallstones* are dependent on a bacillus-coli infection of the alimentary canal, and frequently the appendicitis may imitate one or other lesion, or may even be the cause of it. There even may be vomiting of blood in appendicitis. The pain may commence in the epigastrium shortly after eating; it may be rather a feeling of discomfort than real pain, and it may radiate to the right iliac fossa, and pressure there may increase the epigastrium pain. It is rare for the pain to radiate in other directions.

Eating, which is followed by eructation, makes the pain worse, and there rarely is complete relief between meals. In some, the onset is acute, in others it is insidious, while the symptoms often occur in definite attacks that last one or two weeks—but only rarely is there complete recovery between attacks.

As in gastric and duodenal ulcer, vomiting in gallstone disease is extremely variable, and unattended by blood it is of little value in the differential diagnosis. Frequently the vomiting is dependent, not so much upon the disease, as upon the mechanical condition (obstruction) due to that disease. Even in chronic gastric ulcer, there may be no vomiting, though regurgitation of acid material may occur. In the other cases vomiting will accompany the attack of pain, with great relief from the latter.

In Pyloric Obstruction

If there is obstruction at the pylorus, vomiting of great quantities of fermenting and decomposing material may occur, the amount depending on the dilatation due to the obstruction. The same thing is true of cancer; the vomiting depending upon the degree of obstruction at the pyloric outlet. If there is not much obstruction, there is only flatulence and regurgitation of decomposed material, and vomiting does not occur until later. In any case, it may be associated with slight hematemesis, and the vomited material may be small in amount. It is important to remember that in pyloric cancer vomiting is not followed by relief, as in the case of gastric ulcer. If the carcinoma causes the obstruction at the pylorus and dilatation of the stomach, the vomiting will not differ from that occurring when the obstruction is due to other causes.

Vomiting in duodenal ulcer is not common, and, when it does occur, it points to the occurrence of gastric ulcer, appendicitis or gallstones, in addition to the duodenal ulcer; in other words, vomiting is usually a symptom of stenosis of the pylorus, no matter what its cause.

Vomiting is common in the agonizing pains of gallstones and chronic appendicitis, and is then of a reflex character. In gastric ulcer, the amount of blood in the vomitus is very variable; it may be so small as to be found only on microscopic examination or it may be so severe that fatal hemorrhage may be the first symptom. There may be attacks of slight hemorrhage of but short duration and quickly recovered from.

Vomiting of Blood

It is said that severe and repeated vomiting of blood can occur in the absence of definite ulcer, and the name of gastrostaxis has been given to this condition. In cancer of the stomach, the hematemesis frequently is slight in quantity and each vomit may contain a small amount of blood, changed by digestion, giving the socalled coffee-ground appearance. In other cases, there may be no blood in the stomach-contents, as occurs when the growth is close to the pylorus. Or, again, there may be great loss of blood, with severe hematemesis, as well as blood in the stools.

In duodenal ulcer there is almost never vomiting of blood, but hemorrhage may be followed by faintness, and examination of the stools will show the presence of blood. When blood does occur and is large in amount, it is a much more serious and fatal symptom than similar conditions in gastric ulcer. The blood is more likely to pass down into the intestines than back into the stomach and therefore will be found in the stools in an altered state, as shown by the characteristic tarry appearance, if the hemorrhage is profuse, or by chemical and microscopic tests, if smaller in quantity and not discernible by the naked eye.

It is a matter of importance to remember that in many instances of appendicitis and gallstones, hematemesis may be present, although the lesions are remote from the stomach and duodenum. And it may be due, as we already have seen, to the association of these conditions with gastric ulcer. Often one may arrive at a diagnosis from the previous history, but the exceptions to the common types are so numerous that the exact diagnosis of any one of these conditions is impossible from this aspect alone.

Much further light is to be obtained from the examination of the patient himself. Anemia nearly always is present. This, in ulcer, may be due to loss of blood, or, when there has been no loss of blood, to the underlying toxic condition. Rudemeyer found the hemoglobin reduced in eighty-five of his two hundred cases. Likewise, in duodenal ulcer, gallstones, appendicitis, and cancer of the stomach, anemia may be present, but the differential diagnosis of hemorrhagic anemia and of the anemia due to the absorption of poisons is difficult, if not impossible. Cachexia and loss of weight are also of little value; they may be present in gastric ulcer, and in cancer not appear until late in the course of the disease.

Palpation, percussion, and auscultation give evidence of but limited value.

In cases of gastric and duodenal ulcer, there may be localized tenderness and the position of the tender points may aid in diagnosis. There is deep tenderness over the gall-bladder in chronic cholecystitis, and tumors of the stomach and enlarged gall-bladder may usually be easily felt. But when the tumor of the stomach is large enough to be palpable, the disease is already far advanced and nearly always inoperable. If the abdominal walls are thin, peristaltic waves may be seem if the stomach is dilated. Radiography of the stomach and duodenum after a bismuth meal may be of the greatest value, but the difficulty lies in the correct interpretation of the picture.

It has recently been shown that the usual shape of the stomach is not that of a sac, but that it is divided into a cardiac part, and a more or less sacular pyloric part divided by the incisura angularis. Food is retained in the saccular portion for an appreciable interval. In a distended stomach these divisions may be lost, so that a normal stomach may be mistaken for an hour-glass contraction.

As has been shown by Moynihan, food ordinarily goes rapidly past the cap and upper part of the duodenum, so that, if there is any arrest in this region, it is due to the contraction of the ulcer. The diagnosis is always aided by a test meal, and it is well known that the hydrochloric acid is increased in gastric and duodenal ulcer and diminished in carcinoma, unless there has been a recent history of chronic gastric ulcer. The increase in the albumin in the gastric juice, as shown by the phosphotungstic-acid test; serves to decide between cancer and achylia gastrica.

Of gastroscopy we can say little; but as this requires a general anesthetic, while, further, today the sole danger of exploratory laparotomy is the anesthetic, the patient will suffer the same risk in return for much less information.

If, after all diagnostic means have been used, a carcinoma can not be excluded, an exploratory laporatomy should be done, because of the axiom attributed to Mayo, that gastric cancer does not give rise to diagnostic symptoms during the operable stage. The other diseases, however, are so intractable to medical treatment and are so readily cured by surgery, and, moreover, so likely to be followed by fatal complications if untreated, that valuable time should not be lost in deciding upon an operation. In the simplest forms of gastric and duodenal ulcer, in the absence of severe hemorrhage, medical treatment should be employed for at least two months before operation is thought of.

In appendicitis, the earlier the operation is done, the better; and this is true for the following conditions: (1) In any case, after the age of thirty-five or forty, when the patient is not relieved by a few weeks' medical treatment. (2) In any case in which the stomach shows definite dilatation, and remains of food after twenty-four hours' starvation, whether the symptoms are those of ulcer or of cancer. (3) In every case of repeated hemorrhage. (4) In every case in which a tumor is present and suggesting any one of these conditions, operation is the only rational procedure and should not be delayed, not only on account of its diagnostic value, but because in early and suitable cases it offers the only certain means of cure.

Postpartum Hemorrhage

And How Best to Control It

By WILLIAM RITTENHOUSE, M. D., Chicago, Illinois
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EDITORIAL NOTE.—Dr. Rittenhouse has promised us some more papers upon obstetrical subjects. Be on the lookout for them. They will please you—as this article surely will.

IT IS my purpose in this paper to discuss the subject of postpartum hemorrhage from the standpoint of its etiology; to suggest a method of treatment that I have found simpler, safer, and more reliable than that usually recommended in the textbooks; and, especially, to point out the dangers and unreliability of packing the uterus or vagina.

For more than twenty years I have never once packed a uterus with gauze for postpartum hemorrhage, but in that time I have been called a number of times to the rescue of patients who had been subjected to that treatment, and whose physicians, reposing an unjustifiable confidence in the treatment, had gone away and could not be reached when the hemorrhage returned and the patient was *in extremis.*

A very obvious fact seems to have been overlooked by the advocates of this treatment, and that is, that there is nothing to prevent the uterus containing a gauze packing from ballooning up with blood to the same size it had before delivery, except the stimulus to contraction afforded by the roughness of the gauze in contact with the endometrium. Consequently, when a packing becomes thoroughly saturated with blood, it becomes to all intents and purposes a huge clot, and its presence has the same effect as the presence of a clot. Now, observation shows that a large proportion of hemorrhages are caused by the presence of a clot, and cease promptly when the uterus is thoroughly evacuated. The reason for this is evident; for when the uterus is empty, contraction of its walls closes the mouths of its sinuses more effectually than when the presence of any bulky object holds them partially open.

Two Classes of Postpartum Hemorrhage

Clinically, postpartum hemorrhages fall into two classes, differing in their etiology, their prognosis and their treatment, namely, those due to inertia, and those due to the presence of a foreign body in the uterus. This foreign body may be an undelivered placenta (whether adherent or not), a blood clot, or, more rarely, a polypus or a fibroid. True, inertia is very rare, but hemorrhage due to the presence of a clot is quite frequently met with, and one of the commonest of mistakes is to treat the latter as if it were of the same gravity as the former. Hemorrhage caused by a clot is promptly controlled by thorough evacuation of the uterus, while that due to inertia usually taxes the skill of the obstetrician to the utmost.

The Growth of an Intrauterine Clot

The type of hemorrhage most frequently met with develops within an hour after delivery. A fragment of placenta, a bit of decidual membrane, or even the roughness of the placental site affords a nucleus about which a clot gradually forms, and which furnishes an anchorage that prevents the clot from being expelled by the successive contractions of the uterus. Each contraction presses out the more fluid portion of the clot, while the fibrinous part becomes more firm, until it feels almost as tough as placental tissue itself. During the relaxation following each contraction the mouths of the uterine sinuses allow more blood to escape, thus increasing the size of the clot. As the clot grows larger the uterus balloons up more and more, and when palpated through the abdominal wall feels increasingly large and boggy, instead of small, round and firm, as it should.

In the meantime, the size of the clot prevents the proper closure of the mouths of the uterine sinuses and the blood flows with increasing rapidity, so that, while the size of the clot grows constantly larger, considerable blood escapes externally, although cases are occasionally observed where no unusual amount of blood flows from the vagina until the patient is in a dangerous condition.

It should be borne in mind that a uterus after delivery is capable of expansion to the same size it had before delivery; that is to say, large enough to hold all the blood in the woman's body. Cases are on record where women have died of postpartum hemorrhage with almost no blood escaping externally. In other words, a woman can bleed to death into her own womb.

As the clot grows larger, the uterus treats it as a foreign body, that is, it tries to expel it by repeated contractions which the patient feels as afterpains. So important is this as a diagnostic sign that frequent and severe afterpains should always be regarded with suspicion as a possible forerunner of hemorrhage. It follows, too, that the rational way to treat such afterpains is by removing their cause rather than by the administration of opiates.

In some of these cases there is a degree of inertia at first; but that inertia is not their chief cause is shown by the fact that as soon as the uterus is thoroughly evacuated the hemorrhage ceases and the contraction is maintained. Moreover, it is absurd to attribute inertia as a cause when the patient is having severe and painful contractions every few minutes.

True Uterine Inertia a Rare Cause

True inertia is rare; in my own experience being less than one-fourth of one percent of all cases of postpartum hemorrhage. But when it does occur it is an extremely dangerous condition. The uterus does not contract; that is to say, there is absence alike of the steady, tonic contraction and of the intermittent contractions, both of which are normal and necessary phenomena in the uterus following delivery. The result is quickly fatal unless some stimulant can be applied sufficiently active to arouse the dormant reflexes. The cause of true inertia in the few cases that have come under my notice seems to have been closely related to neurasthenia. They have all been what would be called in common parlance "nervous wrecks."

Prevention and Treatment

In the prevention of the ordinary forms of postpartum hemorrhage the most important rule I follow in my practice is always *to remain with my patient at least one hour after delivery.*

If, at the end of an hour, the uterus is small and firm, if the flow is normal, and if afterpains are not felt oftener than once in fifteen minutes, the doctor can leave his patient with full confidence that she is safe. But, if the uterus is large and doughy when palpated through the abdominal wall, if the patient has frequent and severe afterpains, whether there is excessive external hemorrhage or not, he should realize that there is danger, and should not leave his patient until he has taken effective preventive measures for her safety. Where the above conditions exist there is a clot in the uterus, and by far the most important thing to do is to remove it thoroughly along with any fragments of placenta or decidua.

Introducing two fingers of a thoroughly sterilized hand within the uterine cavity and crowding the uterus downward with the other hand, it is not difficult to explore every inch of its interior surface. Friction with the finger-tips is an excellent stimulant to contraction, and if the emptying is thoroughly done there will rarely be any further trouble. An empty uterus is a safe uterus.

Even where serious hemorrhage has set in, the above treatment is sufficient. The quicker it is resorted to, the better will be the patient's condition, because the less will be the loss of blood. Temporizing measures do not pay.

Packing the uterus with gauze in this class of cases is in my opinion unjustifiable for three reasons: First, because it is not necessary; second, because it is not free from danger; and, third, because of the suffering and shock it causes in the way of afterpains.

In cases of extreme inertia we are justified in taking risks that are unjustifiable in ordinary conditions. Therefore, in any case where emptying the uterus and internal friction with the fingers failed to control the bleeding, I should not hesitate to use the gauze packing, just as I should not hesitate to use vinegar or iron if it were necessary. Desperate conditions justify desperate remedies. But even gauze packing may fail to produce contraction and control hemorrhage. I have seen two cases where it failed and the patients died.

Death From Shock Following Packing

I have seen one case where the patient died from shock; the hemorrhage was controlled by the packing, but the patient died within two hours under circumstances which left no doubt in my mind that shock was the cause of death. She had not lost enough blood to cause her death. The hemorrhage had stopped on emptying the uterus, but the doctor in charge of the case decided to pack for fear of a recurrence. From the time of the packing until she became unconscious she complained of great pain and continually begged us to remove the packing, saying it was going to cause her death.

I have seen several other cases where considerable shock followed packing. It seems to me that this is not surprising in view of the amount of shock we sometimes see from intrauterine manipulations, such as version.

Possibly one reason why packing as a remedy for postpartum hemorrhage has had a vogue is its value in the hemorrhage of abortion. I have always observed in teaching students that many of them are very apt to jump to the conclusion that if packing is good treatment for the hemorrhage of abortion it must be good for hemorrhage after delivery. They fail to grasp the fact that the conditions are radically different. In a nutshell, a uterus in abortion *can not* balloon up with blood; after delivery it *can*.

What Kind of Uterine Manipulation?

One other feature of this subject deserves a word. Some doctors for a full half hour or more after delivery make an attendant press, just above the pubes, upon the uterus so hard as to be a very decided discomfort to the patient, the object being to prevent postpartum hemorrhage. After using this method for some time I abandoned it, because I found that it did not prevent hemorrhage if the conditions in the uterus were such as to cause it. I still palpate the uterus at frequent intervals during the first hour, but it is for information. If I find it relaxed I knead it gently to stimulate contraction, but I see no object in putting pressure on a contracted uterus.

I am often asked for my opinion of ergot. Good ergot is of value in both the prevention and control of postpartum hemorrhage; but much of the drug as sold is inert. Thirty years ago it was the routine practice to give a dose of ergot in every case immediately after delivery, and there is something to be said in favor of the custom. I have sometimes thought of returning to the practice. At present I give it only when I see evidence of poor contraction.

I use ergot to some extent in the six weeks following delivery whenever I see signs of subinvolution. When given for this purpose I prefer ergotin, because it must be given daily for some time, and the liquid preparations soon nauseate. Ergotin, too, is often inert. The French preparation seems the most reliable.

Coffee and Its Adulterations

By CHARLES F. LYNCH, M. D., Chicago, Illinois

EDITORIAL NOTE.—This is the fourth paper in Dr. Lynch's series upon "Foods and Their Adulterations." Other interesting papers will follow.

OUR popular beverage, coffee, is prepared from the seeds of the coffea arabica after being roasted at a temperature of approximately 200° C. On an average each American consumes from seven to ten pounds of coffee each year.

The greatest percentage of this coffee is raised in South America, Brazil alone furnishing about 75 percent of our supply. The coffee grown in the Dutch East Indies, particularly that originating in the island of Java, has an especially marked popularity among American coffee drinkers, and this fact is taken advantage of by the dishonest dealer as affording a source of unlimited ill-gotten profit. Rio coffee worth twelve to fifteen cents a pound affords an excellent return when sold as Java or in admixture with Java at fifty cents per pound.

In this connection the following communication from the United States Minister to the Netherlands is of particular interest: "The term 'Java coffee' has been abused for many years; hence, it arises that of both roasted and unroasted coffee perchance ten times as much coffee is sold to the consumer under the name of 'Java coffee' as is grown in Java."

This is one of the most difficult of all frauds to detect, as there is no paticularly marked difference in the appearance of Java and Rio coffee so far as physical appearances go. Professional coffee-experts are employed by the federal government for the purpose of detecting the various adulterations of this character. In the state of Illinois the Food Inspection Bureau has no such expert and accordingly is powerless to act against violators of the law except such as may be detected by the federal officials of the Bureau of Chemistry working in this territory.

Artificial Coffee-Beans

In the past, coffee has been very widely adulterated, and a few years ago the use of the coffee pellet was largely disseminated throughout the country, especially so in the East. This imitation coffee product had its origin in Germany and large quantities were imported into this country as well as large amounts manufactured by our own enterprising manufacturers. This imitation coffee consisted largely of bran, wheat flour, lupine flour, and similar starch products molded in the shape of coffee-beans and baked.

Following are copies of two letters sent to retailers inviting their attention to this quick road to wealth.

"Dear Sir: I send you by this mail a sample of 'imitation coffee.' This is a manufactured bean, and is composed of flour; you can easily mix 15 percent of this substitute in with genuine coffee that ranges in price from 20 to 22½ cents, and it will improve the flavor of the same; it granulates the same as coffee. If you deal with us it will be in the most strict confidence. This S. S. coffee (superior substitute) is packed in barrels, weight about 170 pounds to the barrel. By the use of our bean you can increase your profits 1½ cents per pound and improve the flavor. Try a sample barrel. Price 11½ cents per pound net, ten days."

Another firm with a more greedy eye on profits prepared a most wonderful product, which they described to the dealer in the following glowing terms:

"Gentlemen: We desire to call your attention to our improved grade of coffee pellets, of which we mail you a sample of tonight. The bulk of the goods has been increased, and the drinking merit still further enhanced, as a test of the goods will demonstrate. To exhibit the value of our goods and show the extent they can be used with good results, we mail you sample of a compound coffee made as follows: 75 percent pellets, 15 percent coffee, 10 percent chicory. This makes a very desirable cup of coffee, equal to any low-grade straight coffee, and costs, on basis of 5 cents per pound for pellets, 7 cents per pound. By the use of 33 percent of our new pellets in fine goods, the same result is obtained as from the straight goods alone. We believe a thorough test of the coffee pellets will convince you that the goods are the most valuable adjunct of the coffee business on the market."

Coffee mixture at 7 cents a pound that could be retailed at 17 cents was something of a profit-getter for the dealer, to say the least. Of course the fact that the consumer was drinking a decoction of wheat bran instead of coffee was a minor item of consideration. He was ignorant of the wonderful advances in the manufacturing art, and ignorance was bliss. In like manner the honest dealer who refused to become an accessory to this form of fraud was placed in a bad position to meet the price-cutting competition of his dishonest rival.

Another fraud which was made use of for a number of years and is still found cropping up occasionally is the practice of coloring inferior-appearing coffee-beans with such substances as chrome-yellow, burnt umber, Venetian-red, turmeric, and so on, to give them an added appearance of superior quality and thus enhancing their market value.

Glazing is a practice which has been the source of much contention between the coffee manufacturers and the various state and national food authorities. In the process of glazing the coffee, the beans are passed through a machine in which they receive a coating of egg or sugar or a mixture of both. The alleged purpose of this glazing process is that it is an aid in the clarifying of the decoction made from the ground product. It sounds very nice, indeed, that the manufacturer should be so considerate of the housewife as to go to all this trouble that the prepared coffee may settle out clear.

Like many other of these apparently helpful procedures, there is another feature of this glazing process that is not quite so benevolent in its nature. This is the fact that this process enables the coffee-merchant so to improve the appearance of a decidedly inferior coffee as to permit him to charge the housewife from one to 10 cents a pound extra for "clearing her cup of coffee." This is a good deal like the process of using saccharin in canned goods, so as to protect the diabetic patient from the danger of overconsumption of sugar.

With an observant customer the use of substitution pellets and other forms of imitation coffee is fraught with a certain element of danger of detection, although some of these imitations are so skilfully made that only experts are able to detect them.

For the more timid, who are afraid to attempt the pellet deception, the adulteration often is confined to ground coffee. Here the extent of the fraud has been at times quite widespread. Out of 30 samples examined by the federal authorities in one series of inspection, 26 were found to be adulterated. This finding of 86 percent of adulterated samples in a series of ground coffees purchased at random shows the extent to which these fraudulent practices are carried without strict supervision by proper officials.

Coffee Adulterants

In the above-mentioned series, one of the samples was found to contain less than 25 percent of coffee; 10 of the samples contained 50 percent or less of coffee, while one sample contained no coffee at all, but was being sold at a price which should insure a pure product.

Among the valuable additions found in these coffees were imitation coffee pellets, chicory, ground wheat, graham-bread crumbs, ground peas, ground corn, sand (10 percent of one sample), barley, pea hulls, buckwheat, and wheat bran. All of the articles named undoubtedly show a reasonable profit when added to coffee to be sold at prices ranging from 16 to 40 cents a pound.

With relation to the use of chicory, this substance has been added to coffee so long that the dealers are highly offended when it is suggested that this adulteration be stopped. The average coffee-merchant seems to regard the use of chicory as a means of increasing profits as a divine right that should be defended by the constitution.

These same gentlemen very glibly tell us in the same breath that the use of chicory in coffee adds a peculiar flavor that improves its palatability. This may be true in some respects, especially in the case of the low-grade qualities of coffee, but there are two big objections to allowing the continuance of this practice.

One of these is, that by the use of chicory it is made possible to conceal inferiority in low-grade coffees and to retail them for something which they are not. The permitted use of chicory also opens the door to wide limits of adulteration in the product. Further, in the case of unscrupulous merchants, the final outcome is the placing on the market of a "coffee" which under some fancy name is sold at an equally fancy price, and which on analysis more resembles chicory flavored with coffee than coffee flavored with chicory, or, as in the case of the sample referred to above, may be found to contain no coffee whatever.

Caffeineless and Cereal Coffees.—Tests

In the last few years there have been placed on the market a few brands of coffee which have had their caffeine-element extracted wholly or in part. One of the large German chemical manufacturing firms has been particularly prominent in the trade and has advertised quite extensively its product, particularly to the medical profession.

In the process of preparation of this form of coffee the whole beans are first infused with water and the caffeine then is extracted from the infusion, after which the exhausted beans are again impregnated with the now caffeineless liquid. They are then dried and put up in packages for marketing. [As a matter of fact the socalled "caffeineless" coffees are practically all said to contain a considerable percentage of caffeine, since it is found difficult, or at least impracticable, to remove all of it.—Ed.]

This form of coffee no doubt is of considerable value in selected cases where the use of coffee is producing manifestly harmful effects. It is in no respect to be considered as an adulterated product, but rather is a highly commendable scientific article that is marketed as just what it purports to be —caffeineless coffee. Its popularity, however, does not seem well-enough established as yet to insure any widespread popular demand for it.

Another form of coffee substitutes on the market are those known as cereal coffee. These are extensively exploited as yielding a simple, harmless beverage free from the direful consequences of the use of coffee. These products also are commendable in their own field and are of undoubted value to individuals who have developed an excessive appetite for coffee.

In their play for popular favor, however, these manufacturers often overdraw their pictures of the baneful effects of coffee. In moderation, coffee is not a harmful beverage; in fact, for the majority of grown-up people its effects are decidedly beneficial. Certainly, to the average healthy American in adult life the drinking of one or two cups of coffee each day is in no way deleterious, and should not be interdicted except when its use clearly seems inadvisable. On the other hand, its use by children, with their highly sensitive nervous system, is never to be advised. In this connection it should be stated that some of these much-touted coffee substitutes have been found to contain as much as 30 percent of the so ardently condemned coffee itself. This is not the rule, however, and the majority of these preparations are practically free from caffeine and pleasant as well as healthful beverages.

A rough test for the adulteration of coffee may be made by placing a small quantity of the whole roasted beans in water. Pure coffee will float, while nearly all of the imitation products will sink.

In like manner a teaspoonful of ground roasted coffee when stirred in a glass of water should float to the top. Most of the extraneous substances will sink. Chicory, when present, not only sinks to the bottom of the glass but leaves a yellowish trail as it passes down through the water. There are some exceptions to these tests. Thus, coffee which has been overroasted may sink to the bottom. Still, sometimes the adulterants used are treated with oil so that the imitation beans will float on water.

In the further examination of the ground samples, the use of a magnifying glass or microscope is of the greatest value, since by this means the granules of the various ingredients may be separated.

In the coffee industry, as in other branches of the food trade, there has been a marked forced improvement in the past five years. This change here, as elsewhere, has been only such, however, as has come through the enforcement of the various federal and state food laws. With the present inadequate available funds and skilled employees, these laws are not as completely respected as might be desired. For instance, the Food Commissioner of the state of Illinois has only a mere handful of men available to assist in the enforcement of the laws throughout the entire commonwealth. Many counties of the state are visited only once or twice a year by a representative of the Food Inspection service. Such enforcement of law as this is only superficial and without enduring influence. Nevertheless, the great changes wrought speak volumes for the efficacy of the men in this service; but, at the best, it is merely a skimming of the top. The gross frauds have been largely eliminated, but the most skilful brains obtainable are constantly at work devising newer and more ingenious methods of replacing these frauds by others more difficult of detection.

The men engaged in state, city, and federal food inspection are grossly underpaid, and this makes it impossible to secure the high class of talent desirable in this work. For instance, in the state of Illinois the Food Inspector's salary is only $100 per month, which is less than that paid to the average clerk in a wholesale house, and who is not required to possess any technical knowledge whatever. To secure the services of the class of men who should be in this work, the salary of these positions should at least be doubled, and even then they would not be commensurate with the skill and knowledge which is desirable in these positions. Every year witnesses the disorganization of these inspection forces by the resignation of competent men who are drawn into the employ of food manufacturers, by the payment of much larger salaries and the increased opportunity for advancement.

It is to be hoped that the incoming state and national officials will not allow any suspension of activities in this line, and that they may take a step forward and place these positions on a salary basis which will enable the Civil Service Commissions to secure the very best available men for enrollment on the staff of pure-food officials.

Retarded Labor Due to Slow Dilation of the Cervix

By H. D. FAIR, M. D., Muncie, Indiana
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I MAY be unable to say anything really new on this subject; perchance the very thoughts I shall attempt to express have been presented time and again, yet, the condition I wish to discuss is so common in the practice of each of us, and is so likely to keep recurring in the future, that the importance of the subject and the value of a full understanding thereof can not be denied. If we can, at this time, reach a conclusion regarding these slow-acting ora uteri and decide on any method whereby the time of the physician may be economized or the suffering of the parturient woman be lessened, it will be well worth our while.

Protracted First Stage

We well know that in a large majority of cases, particularly in primiparas, the tediousness of labor is due to a protracted first stage.

While it is generally admitted that this stage is the one that nature usually cares for without the aid or interference of the accoucheur, it frequently happens that the physician is called early, and for some reason sees fit to remain by the bedside rather than leave the patient, even though his time be more valuable than the family of his patient can ever be made to believe, particularly to the extent of adequate remuneration.

If we are careful diagnosticians and are anxious to determine all the whys and the wherefores in any given case, we shall learn that some of the delays due to a socalled antagonistic cervix, evidently all out of harmony with the procedure at hand, are more apparent than real. In other words, the retardation is due more to lack of effective dilatating force than to rigidity of the canal-walls. Hence, this paper naturally divides itself into two parts; viz., effective resistance, and ineffective force.

When, as sometimes is the case, this resistance is rather spasmodic in its action, it cannot truly be called rigidity of the tissue of the cervix—it is more nearly a spasm, a neurosis, a functional condition. A hyperesthesia, or oversensitiveness, exists where the touch of the finger produces pain and the pressure of the fetal head causes violent resistance.

In this event, we find a patient suffering intensely mentally as well as physically; she is nervous, irritable, and restless. Her skin probably is hot and her pulse frequent. She does not want you to touch her. If in spite of her resistance you do gain access to the cervix, you may find it fairly soft, with a well-defined edge, and apparently dilatable; but, as soon as the pain comes and the distended membranes or head is driven against the rim of the os, there is a speedy contraction and the tissues thin out in a hard, firm layer. Then the patient shrieks in agony and blames the examiner for her pain.

The effect on the nervous system is similar to that of shock, and, although the presenting mass may be driven powerfully against the rim of the os, the uterus suddenly reacts, the contraction subsides, the child recedes, and nothing is accomplished. This is the type of true resistance. The pains are good, the capacity of the pelvis is ample, the mass impinges upon the vaginal portion of the uterus, but the os refuses to open.

Now, what can we do to alleviate this poor woman's anguish? Or, I might ask, shall we do anything? If we do not, we are certain of many uncomfortable hours for ourselves, and of allowing our patient needless suffering. I am in favor of making labor just as easy as possible for every woman. A few whiffs of chloroform or the more liberal use of ether will relieve this condition in nearly every instance, but I consider it poor policy to use chloroform in this stage of labor. If you begin such a procedure at this stage, you will have a task of no mean proportions on your hands.

The morphine-hyoscine combinations are excellent in such cases and are seldom contraindicated.

If the proper-sized dose be given, the labor-pains are not abated, but the patient becomes tranquil and sleeps between pains, and, if we again examine, we shall find the os yielding, with a good, round edge remaining during the paroxysm, and labor progressing. If, on the other hand, you give a larger dose, the pains will, for the time, stop and the patient will sleep profoundly, but in an hour or more she wakes refreshed, and with renewed energy and determination proceeds to do calmly that which before was an impossibility.

If it is not thought advisable to use any preparation containing an opiate, gelsemium may be substituted. The resisting, drawn-out os of paper-like thinness is often made to soften and safely yield by the administration of gelsemium. I prefer the specific tincture.

Dr. Albert H. Smith, who was in his prime forty years ago, divides rigidity of the os into two classes, active and passive; the condition we have just been considering belonging to the former class.

Rigidity of the Os Due to Tissue Firmness

The second class does not depend on functional conditions, but is a genuine rigidity due to tissue peculiarities. It may vary from the simple firmness of tissue found in the cervices of elderly primiparas to the hardness of some pathologic degeneration. Unlike the spasmodic type before mentioned, this variety offers a continuous resistance. The os uteri may feel natural, its margin round and well defined, its tissues not sensitive, the vagina not hot and dry. The fetal mass is carried well down into the brim of the pelvis, yet the os does not open. The patient becomes exhausted through hard work, and not because of temperamental conditions.

By contrasting the conditions manifest in these two classes, we see that we are confronted by an entirely different problem. The first required purely systemic treatment, but this may need local attention. About the best and only medicinal remedy with which I am familiar that is useful at such a time is lobelia given to slight nausea. Quoting from

Lloyd's "Hand-book," "Lobelia is the effectual agent when the uterine os is thick, doughy, and unyielding."

In the anatomical rigidity of elderly primiparas the hot douche often produces most gratifying results. I might say, in passing, that it takes skill and patience to give an effective douche. Here may come in the case that requires manual dilatation; if so, you had better do it. I seldom use bags or other dilatators, although I usually have something of the kind with me, but prefer to use my fingers.

It may be advisable at this time to give an anesthetic, for, when the cervix offers the only resistance or obstacle, and this be overcome, delivery may be quickly terminated. When indicated, I never hesitate to use the forceps, and I believe use of this instrument *is* indicated when the only thing standing in the way of delivery is the absence of pains or expulsive effort.

Finally, in passive rigidity, we may resort to cervical incision. While this procedure has advocates among men of good repute, I have never felt it my duty to use such measures, and it is not without danger. In a hospital, with skilled assistance and necessary conveniences, it may occasionally be the operation of choice, but this condition is just as likely to confront us in a poorly adapted room with indifferent assistance. I have seen alarming hemorrhage as well as extensive tears as sequels to a carefully planned and executed incision.

Mechanical Defects Causing Delay

We now come to the second class, namely, delays not due to causes originating in the os itself; cases where even, though contractions are vigorous, the os uteri remains closed for the reason that the dilatating wedge is not brought to bear upon its rim, dilatation not advancing because there is no adequate mechanical force operating thereon. These cases are frequent and may, like those of the preceding group, be divided into two varieties, viz., those which depend upon causes connected with the contractions of the uterus, and those resulting from faulty presentation.

Among the first class, we may find simple inertia. The absence of suffering and stress differentiating it from a case of rigidity. The os may be soft and dilatable, willing to respond to the least encouragement.

Then, again, we have the type of contraction which causes suffering and apparently is vigorous, yet does not drive the presenting mass against the rim. The pain may be intense while the expulsive effort feeble.

Here there is nothing left for us to do but to stimulate the uterus to more active and prolonged effort, and some of the numerous teas recommended by our "grannies" may serve a useful purpose. Where the patient is not likely to be nauseated, hot chocolate or cocoa is my favorite. Loaf sugar, confectionery or sweets of any kind have wonderfully stimulated the contraction of an inert uterus many times, in my experience. This is a point well worth remembering. The reputation of prescribing chocolate caramels may increase a physician's obstetric practice!

Quinine is well recommended and is good, but it is slow in its action. If we had some nonirritating solution for hypodermic use, its value would be greatly enhanced. In inertia due to hydramnios, the proper action is to rupture the sac and allow part of the liquid to escape.

In the class of cases due to faulty presentation, necessarily must be included those where there is a disproportionate relation between the passage and the passenger. It may be the fault either of the former, or of the latter, or of both.

In either condition the results are the same. The head, being disproportionate to the brim, rests above it, moving freely without any attempt at engagement; not being able to follow and take advantage of the start made by the bag of water, it cannot aid in dilatation. Under these circumstances the premature rupture of the sac is a calamity, for the head will be forced upon the pelvic brim, pinching tighter and tighter the uterine walls, making no impression on its lower segment or the cervix proper.

I will enter into no discussion of the treatment of any individual instance in this group, for the conditions met with have such a wide range of variation that each particular case is a rule to itself, and the common sense and judgment coupled with the experience of the physician must be depended upon to control his actions at the opportune time.

I know of nothing that so taxes the ingenuity of the physician as the serious complications that may arise in the lying-in room. You may be brought in contact with one within the next twenty-four hours; and so may I. Happy, indeed, is the accoucheur who can go into the parturient chamber, with his clean hands and intelligent mind, confident in his ability to tell exactly what the situation is, and to assure his suffering patient that he knows just what to do and how to do it.

THERAPEUTIC NOTES

THE MEDICAL TREATMENT OF CATARACT

According to Brunel and Caudron, whose communication to the *Journal de Médècine de Paris* is abstracted in *Paris Médical* for December 21, 1912, the medical treatment of cataract is neglected unduly, although it has been exploited more or less successfully by quacks. The authors claim that the general medical treatment of cataract must be modified entirely, that it must be adapted to the various forms of this affection, and particularly to the constitutional peculiarities of the patient.

SERUM INJECTIONS FOR NOCTURNAL ENURESIS

The American Journal of Obstetrics for December, 1912, abstracts a contribution by Mello-Leitao to *The British Journal of Children's Diseases*, in which five patients are reported as cured of nocturnal enuresis by Cathelin's method of epidural injections of artificial serum. This method, however, the writer states, acts by suggestion. In two other cases these injections failed, and in one of them lumbar punctures were also unsuccessful, while the other patient recovered under renal opotherapy. Fresh sheep-kidneys, 10 Grams daily, were given for more than eight months, though enuresis ceased on the thirty-eighth day.

ASPIDOSPERMINE IN ASTHMA

In an article in the February number of *The Illinois Medical Journal*, J. M. Patton states that recently he has used aspidospermine (both the amorphous and the hydrochloride) in the treatment of asthma and he asserts that the effects of this remedy have been very satisfactory where there was a bronchial factor, while even when there was marked emphysema and a weak heart the relief obtained was marked and lasting.

One patient, a man, had suffered from asthma for thirty years. There were areas of bronchial irritation in both lungs, one of which, in the lower right lobe, anteriorly, refused to clear up under any kind of treatment either dietetic, climatic, sedative, antispasmodic or with the iodides by mouth or subcutaneously. He was steadily getting worse. Adrenalin relieved the spasm, but secondarily increased the bronchial distress. Morphine was the only thing that gave relief, and the use of this drug became necessary once in from twenty-four to thirty-six hours. Finally aspidospermine gave immediate relief, in preventing the return of the spasm; while, by the daily use of from one to three doses, complete relief both of asthmatic spasm and bronchial difficulty was obtained.

VACCINE TREATMENT OF HAY-FEVER

A. G. Haynes Lovell reports, in *The London Lancet* for December 21, 1912, upon five cases of hay-fever in which the patients gave a positive conjunctival reaction, and all reported themselves very distinctly benefited by the inoculation treatment, although none of them were cured. A complete cure, however, was not expected, as in none of these cases were the inoculations started early enough in the off season.

ALKALI SILICATES IN CANCER

The Prescriber for December, 1912, discusses a communication by Dr. Zeller in the *Muench. Med. Woch.*, Aug. 20, 1912, concerning the use of what he designates as nacasilicum (formula: potassium silicate, Gm. 20; sodium silicate, Gm. 20; milk-sugar, Gm. 60. Dose: 1-4 to 1-2 Gram three times a day) for internal use in the treatment of cancer. Zeller mentions Battye as the originator of this treatment, and *The Prescriber* points out that the latter's article appeared in *The Edinburg Medical Journal* for November, 1874.

The silicate treatment of cancer, which has recently been resorted to a good deal, by no means is new; while the other method mentioned by Zeller, namely, the use of the arsenic-mercurial paste of Astley Cooper and others, is almost as old as cancer itself. The combined treatment, which Dr. Zeller adapted from the idea of the older physicians, consists in the internal administration of the sodium and potassium silicates in powder form, and the local application of a paste composed of arsenous acid and mercury oxide. Of 57 patients, in 20 of whom the diagnosis was confirmed by microscopical examination, 44 were cured, 3 died, and 10 were still under treatment at the time of writing.

GELSEMIUM IN PELLAGRA

Dr. Roy Blosser, of College Park, Georgia, has been using gelsemium in the treatment of pellagra, giving 4 drops of the fluid extract every four hours. The doctor reports excellent results from this remedy saying that the patient will not be without it after taking a few doses.

Inasmuch as there is a general condition of irritation in the nervous system in pellagra, the remedy seems indicated, though we would suggest the use of gelseminine hydrobromide as the best form in which to administer it. Associated with this remedy, might well be used calcium sulphide, as advised by Dr. Mizell, together with intestinal antiseptics and sulphocarbolates, the latter having been very efficient in the treatment of pellagra in the hands of a number of our southern readers.

THE SERUM TREATMENT OF WHOOPING-COUGH

Duthoit (cf. *The Prescriber*, January, 1913) employed Bordet-Gengou's serum in 72 cases of whooping-cough, and concluded from his experience that the serum is harmless even in large doses, that the quantity injected need not depend on the age of the patient, that occasionally injections must be repeated, and that then they should be spaced not more than four or five days apart, in order to avoid serum-sickness.

Fairly good results with this serum have been obtained in this country [see below], but even better by calcium-sulphide saturation.

PROTECTION FROM INSECT BITES

According to Neal, whose paper appeared in *The China Medical Journal*, and is noted in *The Universal Medical Record* for December, 1912, a certain preventive against bites of insects is to rub the body well all over, but not to wipe afterward, with a solution of 1 ounce of magnesium sulphate in a pint of water. If there is a particular exposure, as when in a forest, a stronger solution may be applied to the exposed parts of the body—the face, neck, ears, and hands—so that on drying a fine powder is left over the skin.

We have not been troubled much with insect bites during March!—but next June (when we go fishing) we shall try magnesium sulphate; not forgetting, incidentally, its fame as a promoter of facial pulchritude.

INDUCED LEUKOCYTOSIS IN MENTAL DISEASE

Since some forms of mental disease are due to toxins, and many of the latter are of microbic origin, it seems justifiable, in the opinion of R. Dods Brown and Donald Ross (cf. *The Prescriber*, 1912, December), to administer a drug known to stimulate the natural defenses against toxemia.

After reviewing the work done with a view to producing leukocytosis by the employment of yeast or its active principle, nucleic acid, and of the colloid metals, the authors describe their results in 9 cases of mental disease, 5 of which were acute delirious insanity, 2 were melancholia, 1 was dementia præcox, and 1 advanced general paralysis. In 8 of the cases a 5-percent solution of nucleic acid alone was used; in the ninth case, one of acute delirious insanity, colloidal silver gave the most successful result in the series. As a result of treatment, 1 patient was cured, 4 improved, 3 showed no change, and 1—the one who had general paralysis—died.

The authors conclude that the results are sufficient to show the utility of these remedies as a means of stimulating the natural defenses of the body against disease.

THE BACTERIN TREATMENT OF URETHRITIS

In a paper on this subject (*Indianapolis Med. Jour.*, November, 1912), P. E. McCown insists that, in order to produce a successful and efficient gonococcus bacterin, all the known strains of the microorganism should be combined in a stock-bacterin, and that, for the production of antigonococcic serum, the animals employed for the purpose should be immunized to these same strains in order to produce complete antibodies. Dr. McCown concludes from his experience that bacterins prepared in this manner produce excellent results in subacute and chronic cases, but that the serum appears to be more effective in strictly acute infectious urethritis.

Even if the complete bacterin or serum is not available, this should not, in his opinion, prevent one from using the best bacterin to be had, because this therapy is of distinct advantage in all cases. It is very necessary in cases that lag or tend to become complicated, and is indispensable for those patients who have complications or who for any reason must demand prompt and permanent recovery.

TYPHOID PROPHYLAXIS

Major Frederick F. Russell (U. S. Army), who has probably had the widest experience of any man in this country with the prophylactic vaccination for typhoid fever, said, in a paper read before the Medical Society of the State of New York, that from experience we have come to learn that, with the present method and dosage, it is proper to administer the prophylactic vaccine on the outbreak of an epidemic of typhoid fever. This conclusion is based partly upon the experience in the army, which is highly favorable, partly upon experience in civil life.

In Jacksonville, Florida, in 1898, where 10,759 troops were assembled, being camped there for about four months, there were, according to Reid, Vaughn, and Shakespeare, certainly 1729 cases of typhoid fever, and more probably 2693, with 248 deaths from the disease. At San Antonio, in 1911, in an encampment lasting about the same length of time, there was one case of typhoid fever and no death. All troops had been vaccinated against the infection.

While this improvement shown is not due entirely to the vaccine, but represents the sum of our advances in field sanitation, it helps to show that prophylactic vaccination against typhoid fever constitutes an important part of this field sanitation.

WRIGHT'S SOLUTION

Soon after Sir Almroth Wright propounded his opsonic theory he proposed a solution which he recommended for external application, quite in harmony with his views on systemic infective processes. The preparation, which is known as Wright's solution, has the following composition: Sodium citrate, grs. 2; sodium chloride, grs. 20; water, fl. oz. 1.

This combination acts by virtue of the properties inherent in the two sodium salts, and they are quite different. The sodium citrate dissolves the plasma, or albuminous substance, which is thrown out from the inflamed tissues; while the sodium chloride, by its osmotic action, keeps up a continuous flow of serum, which washes away the wound products. In other words, the sodium citrate prevents coagulation and the sodium chloride produces irritation. Both these processes are desirable in any infected wound to insure efficient elimination of its débris.

The manner of applying the solution is very simple. Several layers of gauze are saturated in the cold solution contained in a clean basin and laid over the parts. A covering of oilsilk may be employed if desired; a thick dry dressing may be sufficient. The gauze next to the wound is to be kept moist for such a time as may be necessary. Dr. Hubert A. Royster (*International Journal of Surgery*, November, 1912) reports excellent results with this solution in two or three wounds that were seriously infected. In each instance there occurred a favorable termination, without scar, mutilation or deformity.

BACTERINS IN ACNE

Discussing, in the December number of *The Journal of the Medical Society of New Jersey*, the etiology and treatment of acne, E. B. Rogers points out that the disease is a chronic skin affection of staphylococcic origin, which persists as long as the organic resistance to the related microorganisms, as shown by the opsonic index, is low.

While such drugs as arsenic, strychnine, iron, etc., will help raise the index, and others, like iodides, bromides, etc., will lower it, and while underlying conditions, especially constipation-autointoxication, are of importance etiologically and influence the results of treatment, the author holds that the best way to treat acne successfully is by raising the opsonic index rapidly.

This can only be done, he says, by appropriate bacterins, and, although autogenic bacterins offer the ideal chances of success, the author has found stock preparations to be very valuable and helpful. He reports six cases in which treatment by means of bacterins gave better results than any other method.

Dr. Rogers is right in approving the use of bacterins in acne—they *are* of extreme value. But they should be associated with a careful toilet of the bowels with laxative salines and the sulphocarbolates, and calcium sulphide often helps substantially in effecting a cure.

GLEANINGS *from* FOREIGN FIELDS

TRANSLATED BY E. M. EPSTEIN, M. D.

Antitoxin and Antitoxin Therapy

EDITORIAL NOTE.—Until a few days before his death Dr. Epstein was engaged in the translation of a series of articles upon "Antitoxins and Antitoxin Therapy." The first of these articles was published in the February number of Clinical Medicine, *in this department. We now find that he had prepared considerable more manuscript upon this same topic. This matter will be printed in these columns, and that (together with a number of briefer items picked up from his desk) will finish his work for* The Clinic*—the journal that he loved so well and to which he devoted the later years of his life.*

[Continued.]

Antigen and Antibody.—The process of forming antitoxin is only a special case of a general and widely spread reaction when albuminous substances are introduced into an animal and they arrive in the blood unaltered. Then the organism very generally forms reaction-products, and these react with the substances introduced in a specific manner. Thus, when a foreign kind of an albuminous body is introduced—irrespective of whether it acts toxically—as, e. g., the bacterial albuminous bodies do—or whether they are relatively nonpoisonous, such as foreign blood-albumin or milk-albumin, etc., occur precipitates in the serum of the blood, which react with the inciting albumin-bodies and form insoluble bodies.

After injecting animal cells, there arise specifically solvent cystolysins, or substances which agglutinate the foreign cells—the socalled agglutinins. The reaction, in these cases, between the antibodies that arose in the blood and the resulting foreign bodies, the socalled antigens, is directly observable. Other antibodies (as these specific products of reaction generally are called), for instance the antiferments, can be recognized in the serum only by the fact that they abolish the effect of the antigens, i. e., the ferments. In the same way the presence of the antitoxin is recognized only by the serum containing it destroying its toxic effect.

Concerning the nature of the formation of the antibodies we know nothing. According to Ehrlich's conception and of most of the immunists who share this idea with him, the antibodies are already preformed as side-groups in the protoplasm of the cells that produce them: definite groups of atoms of the protoplasm react with the introduced antigens, and according to Ehrlich's theory similar atom-groups being influenced by reaction become newly formed in increased measure, and these pass into the blood as soluble products of reaction and there act as antibodies. As long as these antibodies remain in union with the cells, the groups of protoplasm capable of reaction direct the antigens to the cells, and so, too, the toxins to the point of attack of their virulent action; but when they are found in the blood as antitoxins they, by their affinity, divert the toxins from the point of attack of the cells.

The behavior of the transformation-products, which are easily formed out of the toxins and are nontoxic, was very important for the further development of the immunity-theories. Ehrlich found such transformation-products (toxoids) first in the diphtheria poison (see Ehrlich's "Die Konstitution des Diphtherie-giftes," *Deutsche Medizinische Wochenschrift.*, 1898, No. 38, and "Die Werthmessung des Diphtherie-heilserums," *Klin. Jahb.*, 1897, p. 299). It was only in fresh solution of the diphtheria poison that he found a parallelism between the toxic effect and the binding capacity for antitoxin. By keeping the solution, the toxic effect diminishes, yet the toxoids which are being formed bind the antitoxins as before and evoke in the organisms the formation of antitoxin.

To explain these facts, Ehrlich assumes that there are two kinds of groups of atoms in a toxin-molecule. One group is a binding one (haptophore), by means of which the toxins anchor themselves to protoplasm of the cells and with which this protoplasm binds the antitoxin; the second group is a "toxophore" group, with the loss of which the toxin-molecule loses its typical deleterious effect. The toxoids have no toxophore-group, while, with their haptophore groups, they approach in a similar way the protoplasm of the cells, invite the formation of the antibodies, and can react with the antitoxin just like the original toxic toxin-molecule.

This parallelism between the binding ability for antitoxin in the test tube and the capacity for the formation of antitoxin led Ehrlich to the hypothesis that they are the same group of atoms which, in the synthesis of the antigens with the antitoxins and by its becoming bound in the cells of the organism, enter into reaction.

It is in the fast binding of the toxin in the cells of the organism that Ehrlich's theory sees the cause of the formation of the antibodies, while the typical action of the toxin has nothing to do with it. The theory thus explains that antibody production can result from toxins when the cells are not damaged too much by the poisoning effect. Therefore those cells can also contribute to the formation of antitoxin which are not subject at all to the specific toxicity of the toxin, so far as this is bound in their protoplasm alone.

According to Ehrlich's side-chain hypothesis, the antibodies are those groups of atoms of the protoplasm which react with the antigens in the cells and are formed in excess and discharged into the blood. But as to why there is an excess of new formation and a repulsion of "side-groups," Ehrlich's theory also can say nothing. Ehrlich puts the processes of the damages done to the protoplasm, when receiving foreign substances, in analogy with morphological processes in tissue defects where there is not only a mere compensation for the lost cells but an overproduction is regularly to be observed as well. (Compare Ehrlich, "Gesammelte Abhandlungen der Immunitaetslehre," 1904, and also Aschoff, "Die Seitenketten-theorie," 1902).

Antitoxic Sera are used in the treatment of diphtheria, tetanus, dysentery, and against snake-poison. The preparation of these sera depends, first of all, practically, on obtaining as high a content as possible of antitoxin in the blood of the animal yielding it after an appropriate preliminary treatment. That antitoxin accumulates in the blood in proportion as the animals are more highly immunized is a fact that Ehrlich was able first to demonstrate by the mixing experiment as a method of determining the standardization of antitoxin. (Ehrlich, *Deutsche Med. Woch.*, 1891, No. 32.) After a stage of latency, the antitoxin-content rises after about the fifth day; its maximum in diphtheria being reached after ten days, and in tetanus after seventeen days. Then the curve of antitoxin-content usually begins to fall, rising again after some weeks, until it becomes constant.

The antitoxin which is introduced hypodermically into another organism by means of immune serum is absorbed slowly, but it remains a longer time in the blood. Thus Knor ("Habilitations-schrift," 1895) found, for instance, the maximum content of tetanus-antitoxin in the blood not earlier than twenty-four to forty-eight hours after the injection; then the amount decreased gradually, but only after three weeks no antitoxin was demonstrable in the blood.

The passive immunity, therefore, never has so long a duration as the active. Still, a single injection of the passive-immunity serum of diphtheria and of tetanus serum affords protection for several weeks. This remaining of the antitoxins in the blood so relatively long argues in favor of their standing chemically very near to the normal albumin-bodies of the blood, or that they circulate in the blood combined with albumin. (Roemer, *Beitraege z. Exp. Therapie*, 1905, heft 9.) So far as the excretions are concerned, it is the milk that contains antitoxin. (Ehrlich, *Zeitschr. f. Hyg.*, 1892, p. 183.) Protective bodies, therefore, are transferred from the nurse to the nursling.

Antitoxin is found in all tissue-fluids, although in less quantities than in the blood-serum. However, it probably does not penetrate into the cells. In active immunity, the cells may show even oversensitiveness, although the serum of the animal already contains much antitoxin. This inability of the antitoxins to affect the toxins in the cells themselves defines the limits of the healing power of the serum in the treatment of the disease after it has broken out. Indeed, the antitoxins probably are unable to heal the damage already done to the cells that are sensitive to the poison; being able only to intercept a further attack by the toxins and thus prevent a further increase of damage done to the tissues. How the success of the serum therapy under these conditions is to be understood will be discussed when adducing detailed instances of the application of serum-therapy in the treatment of diphtheria and tetanus.

The infection with Nicolai's tetanus bacilli do not cause the characteristic symptoms by a propagation of the bacilli themselves, but by the soluble poisons produced in the wound. The phenomena that appear in the animal experimented upon with the tetanus poison are, therefore, exactly the same as those that follow the injection of the incitors (the bacilli) themselves.

While in extension the cramps in man do not follow as regularly as they do in the animals experimented upon, in that certain groups of the human muscles are those that are attacked independently of the place where the incitors gained an entrance, in the animals experimented upon we can distinguish three stages, namely: (1) The local tetanus; a tonic rigidity of the musculature, which begins in most animals in the muscles near the place of injection. (2) A stage of extension of the muscular contraction, from the last-affected muscles to their neighbors. (3) A stage of general reflex-cramps resembling essentially those from strychnine. The first phenomena appear after an incubation-period of eight hours up to as late as several days.

What, therefore, distinguishes the effect of the tetanus poison from the one of strychnine is the long incubation-period and the appearance of the tonic rigidity, especially of the local tetanus.

The origination of tetanus suggested at first the idea that we have to do here with a pathologically increased irritability of peripheral elements. But against this spake the facts that curarization and section of the nerve at the beginning stop the cramps effectually. The local tetanus has found its better explanation rather in the peculiar manner of diffusion of its poison. (H. Meyer and Ransom, *Arch. f. Experim. Pathol.*, 1903 Bd. 49.) The poison of tetanus has a special affinity to the nerve-substance and is conveyed exclusively by the peripheral terminal-nerve apparatus to the central nervous system, and not by the blood current. This transport of the poison by the nerve route explains the peculiar extension of the cramps from one segment of the spinal cord to another.

The tetanus virus does not act toxically by way of the stomach. For one thing, it is absorbed with difficulty, but more particularly because of its rapid detoxication by the digestive juices, especially by the combined bile and the pancreatic secretion. (Ransom, *Deut. Med. Wochenschr.*, 1898, p. 117; Carriere, *Ann. de l'Inst. Pasteur*, 1899, p. 435; Nencki, Sieber, and Schumow-Simanowski, *Zeitbl. f. Bakt.*, 1898, p. 480.) On injecting the poison intravenously, it disappears from the blood after a few minutes. (Decroly und Bonsse, *Arch. f. Exp. Path.*, 1903, p. 211.) After hypodermic injection, also, it is rapidly absorbed. Rats into whose tails the toxins was injected could not be saved by its amputation after two to three hours. The poison, therefore, must have been carried off rapidly from the place of injection, although the symptoms remained latent for a long time after the injection was taken up.

The toxin can be demonstrated in the peripheral nerves at the place of injection. An hour and a half after an injection into a leg the poison can be found in the ischiatic nerve, but is not demonstrable in any quantity in the muscles and fatty tissues of the place of injection. (A. Meyer and Ransom, *Arch. f. Exp. Path*, 1903, p. 369; Marie and Morax, *Ann. de l'Inst. Pasteur*, 1902, p. 818, and 1903, p. 335.) Hence, the poison is taken up by the nervous tissue electively, and the taking up depends on the integrity of the axis-cylinder: a nerve previously cut across will show the poison, only much later, i. e. about twenty-four hours. A degenerated nerve absorbs no toxic substance at all any more.

From this it appears that the nerve-fibrils themselves are the absorbents, and that it is not the lymphatic vessels of the nerves that bring the poison to the central nervous system.

From what has been said, we see that the tetanus toxin, on account of its great affinity for nervous tissue, becomes at once bound to the intramuscular motor-nerve-terminals at the place of injection, or, say, the place where the poison is produced. Then the poison is conveyed in the path of the peripheral nerve to the section of the spinal cord where it belongs, whence it goes to the neighboring section, and first on the side where the inoculation took place. Thus after part of the cord becomes ascendingly implicated until in the last stage there ensues a general rigidity and an increased general reflex irritability.

Another part of the tetanus toxin gets into the lymph and blood paths. But from these the poison does not penetrate directly into the nervous system, but it is taken up by the terminals of other motor nerves and by them —not, therefore, directly by the blood path—

the poison arrives to the centers. By far the greater proportion of the poison directly is taken up by the regional peripheral nerves.

Accordingly, great protection is afforded an animal by severing a nerve-trunk, as, e. g., of the ischiatic, when the tetanus toxin was injected into its leg in a dose so large that it would otherwise be fatal. Hans Meyer was able to adduce in the following way the conclusive proof that the tetanus toxin travels along the nerve. He injected antitoxin into the nerve itself and so cut off the main path for the toxin that became detoxicated by the antitoxin, and any other deathly doses thus were rendered ineffectual.

The taking up of the tetanus toxin into the tissue of the nerves determines the limits of possible healing by antitoxin. The central nervous system and the peripheral nerves do not take up the antitoxin from the blood. Therefore not even a very high content of antitoxin in the blood will protect the animals from becoming fatally sick when the poison was injected directly into the trunk of the nerve, and not, as usually, subcutaneously. Hence is it that only those portions of the tetanus toxin can be reached by the antitoxin and be detoxicated which have remained as yet unabsorbed at the place of injection or that area where the toxin is produced, and also those other portions of it which, although taken up by the blood current, have not been taken up as yet by the terminal nerves.

(*To be continued.*)

THE TREATMENT OF ULCERATIVE COLITIS

In a communication to the 84th meeting of German naturalists and physicians (*Therapie der Gegenwart*, 1912, October), on the treatment of ulcerative colitis, Dr. Wegele warns against the introduction of the rectoscope in these cases, principally, because the intestinal tract is stretched by the instrument and several fatal cases have followed its introduction in the practice of noted specialists.

In the treatment which the author employs, he uses calomel, bismuth salicylate, careful dieting, and medicated enemata. For the latter, he recommends at first chamomile infusion, and two hours later a 1-percent solution of ichthyol or a 1-percent solution of collargol, or, also, a 1-percent solution of hydrogen dioxide. In his charity practice, white bole, or kaolin, often has rendered him excellent service. Laxative mineral waters should not be permitted except they are very mild.

In the discussion of Dr. Wegele's paper, the good effect of white bole was confirmed, also the efficiency of enemata containing balsam of Peru. Dr. Fenger recommended the administration of a mixture of raspberry wine with claret and opium. Dr. Birrenbach advised enemata of calcium chloride.

SALVARSAN INTRAVENOUSLY IN SCARLATINA

R. Lenzmann claims (*Therapie der Gegenwart*, 1912, October, p. 468) that it is possible to reduce the fever in scarlatina gradually by three or four injections of 0.2 to 0.3 Grams of neosalvarsan. After the first injection the reaction may be very intense, because severe toxic symptoms may occur, owing to the immense destruction of the microorganisms. After this treatment the deposits on the tonsils and on the tongue disappear promptly. While it is not possible to influence cases of severe scarlet-fever by salvarsan, the author claims that those of medium severity are rendered more mild.

This last concession of the author's will probably prevent the adoption of his mode of treatment, which, at best, is rather severe. Moderate attacks of scarlet-fever may be influenced favorably and usually may be guided to recovery by appropriate dosimetric, hygienic, and hydrotherapeutic treatment. It is in the cases of severe illness, with intense intoxication that almost all treatment is so hopeless, and it seems futile to propose modes of treatment that are not without danger, unless they promise favorable results in those instances which otherwise almost surely seem hopeless.

MODE OF ACTION OF DIPHTHERIA ANTITOXIN

F. Rolly, in a review of recent investigations in serum therapy (*Therapie der Gegenwart*, 1912, October), shows that, although diphtheria antitoxin probably does not possess a direct bactericidal action, it produces such an action secondarily in the organism. He believes it reasonable to suppose that the injection of the serum causes a stimulation of the bone-marrow or of other organs and cells through which the bactericidal substances are produced in increased amounts. The curative effect of serum injections would then depend upon the power of the organism to respond to the stimulation. The direct action of diphtheritic serum is antitoxic, as shown above; the indirect action is bactericidal.

MISCELLANEOUS ARTICLES

Economic Environment the Main Cause of Disease

THE December issue of THE AMERICAN JOURNAL OF CLINICAL MEDICINE has two timely articles that appeal so forcibly to my disposition to speak out in meeting that I can maintain silence no longer without a painful violation of my conscientious convictions. They are, "The Doctor of Tomorrow" and "If I had a Million." The provoker in each of them is the fact that the argument leaves the gate so wide open that a man of my mental bent cannot help walking right in.

"Every case of illness should be traced to its causes," says Dr. Waugh, and "these made plain to every member, as well as the means of avoidance." How natural, reasonable, and true—especially to the altruistic mind—is this. And, yet, how little did we learn of it in the medical college. Primary, or immediate, causes, as manifested in visible symptoms of course we studied. But those more remote—the cause behind the cause—which reason says should be sought out and removed, of this nothing was said. Hence, I purpose to point out an epitome of some of the avoidable causes of disease as we see them in wrong economic conditions. Possibly many of these statements may seem incredible to those who are not informed in the realms of thought from whence they are gleaned. If so, I will gladly back them up by quotations from official authorities, which for want of space are omitted here.

To know what disease is, we must know what health is, and what life is; therefore, since some physicians and many laymen still hold to the old theological idea of disease, that it is sent as a visitation of an Allwise Providence for some inscrutable purpose known only to Himself, we will clear the way by giving its scientific definition. This also will pave the way to what follows as to environmental causes.

To get "back to nature," as the great philosopher Kant used to say: life is "the definite combination of heterogeneous changes, both simultaneous and successive, in correspondence with external coexistences and sequences." This is from Herbert Spencer, the "world's first great systematic thinker" and its greatest synthetic philosopher, so regarded by the most competent authorities. But it is so erudite and scientific that Mr. Spencer himself has condensed it as follows: "Life is the continual adjustment of internal relations to external relations."

It is, therefore, self-evident that perfect adjustment of the microcosm to the macrocosm would result in perfect use of function; which would be perfect health. The moment there is any arrest, excess or defect of functions, that moment physiology passes into pathology. Hence Prof. Huxley says; "Disease is a perturbation of the normal activities of the living body." And Prof. John Fiske, the greatest American exponent of evolution, says, "Dynamic pathology regards all disease as disturbance of the internal equilibrium, and recovery is the restoration of equilibrium." In other words, any lack of correlation of man with his natural environment logically results in disease. Moreover, as this life advances or develops from age to age, and its heterogeneity increases, the multiplicity of its correlations is also augmented, and likewise the necessity for continuous readjustment, in order to preserve health and avoid disease with all the other evils logically resulting from maladjustment.

Nature always aims at perfection of structure, and our supreme desire should be to cooperate with her in all her laws. A sound mind in a sound body is the heaven-born heritage of every human being. If he does not enjoy it, man, and not God or nature, is to blame. This somewhat technical outline of the philosophy of disease and all other abnormal conditions from the point of environment leads us to consider:

That something is radically wrong in society everywhere is painfully evident to everyone, no matter from what angle we view the subject. People do not sever their lifelong connections from their religious and political moorings, as they are now doing by the millions, except for the very best reasons. The cry of oppression is heard on every hand.

After studying these questions for some forty years, I contend, without fear of contradiction, that the fundamental cause of disease, crime, sin and suffering is the unequal and unjust distribution of the products of industry. It is self-evident that wherever and whenever the few possess much more than they need or earn the many have less than they need for complete healthful living. This causes abnormal class distinctions and disharmony in the natural environment, destructive alike to both.

About 50,000 millionaires and several scores of thousands of one-hundred-thousand-dollar men now own more wealth than all our other 93,000,000 people. These few, comparatively, "neither toil nor spin, yet they are clad in purple and fine linen and fare sumptuously every day." The lean, lank wolf of want is always howling at the door of some twelve million of our once free American citizens. The jobs of half of our men, women and children are very precarious, and they receive only about half of the $1000 a year they earn and need. Hence their anxiety over enforced idleness, frequent moves, the decreased purchasing power of their labor unhygienic conditions, malnutrition, etc., lower their vitality and paves the way to disease and suffering.

It costs from $1200 to $1800 a year to support a family of five in a healthy condition. How, then, can they live on $500. The average cost of living has gone up 60 percent during the past fifteen years, while wages have increased only 20 percent. During this time our facilities for the production of life's necessities have doubled through the multiplication of labor-saving machinery; which, however, is all in the hands of a limited number of capitalists. And they will not allow their machinery to be used except at a good profit to themselves. About 10 percent of our people now get half of all the wealth produced by the other 90 percent. And two men, Rockefeller and Morgan, control $40,000,000,000, which is to say, more than one-third of all the wealth of our great nation.

About 75 percent of our 20,000,000 school children, most of whom are from the working class, are defective in some way, menacing their permanent health. Slow starvation, the result of capitalistic robbery, is murdering them. Some 3,000,000 of our little ones are in our mines, factories, shops, and other industries, chained to the machines of mammon, their tiny little bodies ground into dollars, to glut the greed of the idle parasitic rich. Their minds are blighted, stunted, shriveled and dwarfed forever. Well does the poet sing:

> "No fledgling feeds the father bird,
> No chicken feeds the hen,
> No kitten mouses for the cat—
> This glory is for men.
> We are the wisest, strongest race.
> Loud may our praise be sung;
> The only animal alive
> That lives upon its young.

This child slavery is the most damning crime of our age, and it must cease. During the last decade the number of young people preparing for college decreased from 10 to 5 percent. In divorces, we have 73 per 100,000 per annum, while in Germany, England, and France there are only from 6 to 23 per 100,000. Crime has increased, from 1 out of 1647 in 1860, to 1 out of 700 in 1900. Suicides, insanity, prostitution, wife desertion, and other expressions of diseased society are increasing from two to five times as fast as our population. We have 6,000,000 men in enforced idleness, and half a million more tramps, hoboes, and homeless, hopeless outcasts beyond the reach of the census-taker. Venereal diseases are alarmingly on the increase, while marriages are decreasing relatively.

The borrowing classes owe the loaning, loafing class over $70,000,000,000. Nearly 90 percent of our people do not own a home free from debt. More are killed and maimed every year on our railroads, in the mines, factories, and such like occupations than were killed and wounded on both sides during the war between the states, most of which is due to our cannibalistic industrial anarchy. Our annual waste of life and energy, due to easily preventable causes, is estimated to exceed $11,000,000,000.

The management of the steel ("steal") trust for the last thirty years furnishes an illustration of the way this appalling state of things has been brought about. During that time it has increased the working hours of its men 50 percent. The proportion of its employees has been decreased, by installing better machinery and by more thorough organization, by 80 percent. The productive power of its plants increased 300 percent and the wages of the employees decreased 35 percent. Its laborers are in a barbarous condition. And, remember, this is only one of our over 700 trusts, all of which are capitalized at from two to five times their physical valuation.

The tyranny of these modern tyrants is absolutely unbearable. Through their domination, our whole economic-political system is strained to its utmost. No wonder disease, with all the other indications of maladjustment, is increasing much more rapidly than the population.

And the doctor, in common with everybody else, is caught in the jaws of this modern monster, Moloch. Listen to this from the committee of the Chicago Medical Society, June 28, 1912: "Medicine as a livelihood has arrived at the most critical period of its existence. The economic status of the profession is nothing, if not pitiful. The very existence of the doctor is at stake. . . . . The average income of the doctor in America . . . . is about $700 a year. Economic conditions here are not as favorable today as they were five, ten or even twenty years ago."

We all know how true all this is. We find it harder and harder to collect. And charity-cases are multiplying so rapidly that we do not know what to do with them. Moreover, Christian Science and the dozen other drugless "pathies" are growing rapidly and now have a following equal to nearly one-fifth of our population.

Therefore, we as doctors and guardians of the public welfare, especially from a physical and sociological point of view, must take a hand in the great economic revolution now on, or go to the wall discredited, disgraced, and, perhaps, many of us forced to enter other fields for a living. We must, with everybody else, adjust ourselves to our changing economic environment.

It is self-evident that, to be worth considering at all, the remedy needs must be of such a character as to remove the greatest possible number of causes productive of maladjustment. The correlation between the microcosm and the macrocosm—that is, man and his natural environment—which capitalism has so nearly severed, must be readjusted.

To live a happy, healthy life, to round out the full period of our existence, of, say, one hundred to one hundred and fifty years at least, every grown individual should work, physically, from two to four hours a day. Everyone should study from three to six hours a day. Everyone should have ample time for recreation, rest, and diversification.

This is nature's demand, according to such statesmen, philosophers, and scientists as Kant, Spencer, Lombroso, Marx, Huxley, Darwin, Lincoln, Jefferson, Ward, Compte, and so on. And it is in harmony with the teaching of the Man of Nazareth concerning human brotherhood. (See Matthew 6 : 24–34.)

A word from Herbert Spencer (whose thought was so fully elaborated, on the industrial plane, by Karl Marx, the avator of modern socialism) will both illustrate and prove my position. Thus Marx says, "Briefly, then, the universal basis of cooperation is the proportioning of benefits received to services rendered." Pray, what services do the rich robbers render to society, and what benefits do the workers receive for all their labor? Again: "The highest life being reached only when, besides helping to complete one another's lives by specified reciprocities of aid, men otherwise help to complete one another's lives. The citizens of a large nation industrially organized have reached their possible ideal of happiness when the producing, distributing, and other activities are such in their kinds and amounts that each citizen finds in them a place for all his energies and aptitudes while he obtains the means of satisfying all his desires." How few of the natural, lawful desires of the laborers who do the world's work are now satisfied! How the energies of millions are wasted and their aptitudes undeveloped!

Now, I submit, in conclusion, that a careful study of modern scientific socialism will convince any candid mind that this philosophy meets more fully than any other plan ever proposed all the demands of all mankind for complete living. It fulfils the biological law for complete harmonization with our natural environment, because it places within the reach of all the means by which our needs of body and mind may be supplied.

Socialism proposes the socialization of all our industrial achievements, now used for exploitation, as the only natural, logical remedy in line with economic evolution. This will harm no one, will assure everyone work of body or of mind, or both, and the full social product of his labor, which would be about $2000 a year for a 6-hour day; and more later on, when the industries are better organized. It would give everyone full control of his job. Much more private property could be owned than is now possessed by the average family. It would place every child in school until of age, then give a technical o professional course of study, if desired. It would do away with the class struggle between rich and poor, which is waxing fiercer and fiercer from day to day.

Poverty and parasitism would forever vanish. So, also, would intemperance progressively, as people become educated. And war, horrid war; well our "spears would be beaten into pruning-hooks and our swords into plow-shares." All the class distinctions due to unequal economic conditions would vanish, for everyone would enjoy the same opportunity that every other one did to procure life's necessities and luxuries, a home and all that goes to make life worth living. It would save the home, purify religion, feed individualism, augment the initiative, cut the taproots of crime, destroy the white-slave infamy, and open wide the door of opportunity to the millions to whom it has been closed by capitalism.

Everything would be made for use, and not for profit, as it is now. The incentive to lie, cheat, and to steal, therefore, would vanish. The sphere of the physician would be found more in the field of prophylactics and teaching rather than as a dispenser of potions and lotions. Nor would there be any more worry over bad debts. Moreover, his pay would be ample and sure, depending on his ability, energy, and faithfulness to his clientele.

That every effort to control or regulate the trusts by the old parties has been a dismal failure and an expense to the people, on the one hand, and a benefit to those vast aggregates of capital, on the other, is plain to every economic student. That industrial cooperation must succeed competition and capitalism as the next step in economic evolution, if we are to be saved from a bloody cataclysm, is likewise evident to all broad-minded students of these questions.

Is it not, therefore, the duty of every member of our noble profession to study the socialist philosophy and to act on the principle of its golden rule, which is, to treat every member of the body politic as he would treat a part of his own body?

S. J. Brownson.

Ft. Worth, Tex.

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[We make no apologies for publishing Dr. Brownson's article. While we are not socialists, we know that socialism is growing at a tremendous rate in this country. In our opinion it is the product of unhealthy economic conditions—the protest of millions of men and women against the social injustice which makes some men rich and keeps other men poor. That it is the remedy for all our evils, that it will bring about the millenial condition that Dr. Brownson and others dream about, we do not believe. Instead of being in line with evolutionary law, it seems to us opposed to it. All nature is in warfare, and out of its battles there are constantly being evolved not only new forms but dominant individuals—the leaders, the great men. Progress really only comes as a result of struggle. Should we be able to establish a state in which conditions were so ideally simple as our socialistic friends paint them—where no man had to work more than two or three hours a day—it would engender a race of weaklings which would be swept away when the first barbaric tide of fighting savages broke in upon us from Asia or Africa. But—we should all know the program of socialism; with much of it we are bound to be in sympathy, and for this reason we are glad to give Dr. Brownson a hearing.—Ed.]

TESTIMONIAL BANQUET TO DR. WM. J. ROBINSON

More than two hundred physicians, writers, editors, and others prominent in the life of the city attended, at the Hotel St. Denis on Friday evening, March 7, the banquet tendered to Dr. William J. Robinson by his friends and admirers, in recognition of his work as physician, editor, writer, lecturer, and publicist, and in celebration of the tenth anniversary of the foundation of one of his journals, *The Critic and Guide*. Dr. A. Jacobi, president of the American Medical Association, acted as toastmaster, and in his usual happy vein told that he read *The Critic and Guide* as religiously as a religious man reads his Bible, and hoped he would be able to read it for fifty years more. Letters and telegrams were read from physicians and editors in many other cities.

In the toasts that followed, Dr. James P. Warbasse spoke of the guest of honor as the iconoclast, clearing medical journalism of past traditions and abuses. Mr. James F. Morton Jr. spoke of Robinson's work for eugenics, commending his campaign against prudery as one carried on, not for sensational purposes, but to gain a serious hearing for questions vitally affecting the race. Dr. H. Edwin Lewis told some interesting history of the days when the manufacturers of unethical products offered unlimited financial backing to anyone willing to bring suit against the Doctor for his exposures of their products. Mrs. Anita C. Block, women's-page editor of

The New York Call, hailed Dr. Robinson as the champion of womanhood and as the new type of physician. Dr. A. L. Goldwater spoke of him as the physician, Mr. Edwin C. Walker as the social reformer, and Mr. A. Bancroft Firmin as the thinker. Mr. Gregory Weinstein toasted him as the friend, while Mr. O. S. Wadleigh paid a tribute to the home-life and the esteemed life-mate of Dr. Robinson; and Mr. Edward L. Bernays referred to the qualities of his children.

Toasting Dr. Robinson as "The Citizen," Borough President McAneny said: "A man who plays the part of Dr. Robinson is not only a citizen, but a good citizen. He has dealt with those things which before long will be matters of discussion in many and many a place. He has dealt with those things that we as a city must deal with, if we are to raise up the right sort of people. The city, if I may so put it, has been the greatest prude of all in dealing with those things that belong to the body social, and when we are thoroughly awakened the fruits of Dr. Robinson's activity will be seen in the city of New York. I regard him as a pioneer who is blazing the way, and where he has gone many and many a man and woman will follow and push his work to its completion. The city of New York values the citizenship of such a man as Dr. Robinson. Long may he continue to be with us and to aid in our city and our social work."

In his response, Dr. Robinson referred to his gratification at the fact that among those present there were so many who did not agree with or endorse all his opinions and teachings, and described the problems besetting a radical medical editor.

THE CLEAN-OUT AND KEEP-CLEAN DOCTRINE

I think I can safely say The American Journal of Clinical Medicine has done more to establish the practice of preparing a clean alimentary tract than any other agency in America. And now, after an experience of seven years in our sanitarium, I consider it my duty to add some of my own experience in this direction to all the testimony heretofore published.

Seven years ago there came to us a woman about sixty-five years old who said she had suffered from indigestion for twenty-five years. Her stomach soured so much that, as she said, she had taken a barrelful of soda. She had been given up by her home physicians as a victim of tuberculosis of the bowels which would end in starvation. When she arrived she weighed eighty-one pounds and could scarcely walk two blocks. For five months she had lived on dry toasted bread and cereal coffee.

I concluded that, if her system had been absorbing fermenting and undigested food for so long a time, she needed a thorough cleaning out. So, for about four weeks, we gave her cathartics and purgative mineral water, besides diuretics, hot baths, massage, what exercise out of doors she could take, with plenty of water to drink—adopting every means to eliminate waste matter. This was supplemented with plenty of the mixed sulphocarbolates, to stop fermentation in the digestive tract.

Let me say here that, while many doctors call them useless, we have been using the sulphocarbolates for seven years and believe they are as certain to do their work as bread and meat will do theirs for a hungry body. I think we have tried almost everything that is used for intestinal antisepsis, but now use almost exclusively this combination of the three sulphocarbolates put into capsules to which we add from 2 to 4 drops of equal parts of beechwood creosote and olive oil. We have been using this for nearly five years and have never been disappointed in its results.

Now back to the patient. Along with cathartics we used colonic washings with a solution of sodium bicarbonate or of salt. While we were stirring up so much poison material she did not gain very much the first week. However, she began gaining after that and kept on gaining until she was well, which was three months; after which she could eat anything, from pork and beans to mince-pie, and has been a strong, healthy woman for her age ever since. We did add one thing to Dr. Abbott's clean-out and keep-clean method, and that was to build up the blood.

Now, of course, we gave, at the start, the digestive ferments—pepsin, pancreatin, diastase—but we are using less of these all the time, as I believe their effect is only temporary. If the blood stream is as clean and as rich as it should be, it will furnish its own digestive ferments. I believe the two things we did for this woman's good was, to clean out her system and to build up her blood; and I believe those two things will effect a cure in any case of indigestion when not caused by some organic or reflex trouble, such as ulcer of the stomach, or a duodenal, gall-bladder or appendix trouble.

Five years ago another woman, about sixty years of age, came for relief. For two or three years she had been troubled with constipation and indigestion. When I saw her she had been unable to sleep but little, because of cystitis, had eaten very little for two weeks, and was down and out. Her abdomen was very tender and so distended with gas, feces, and venous congestion of stomach and bowels that she looked as though she were about to be confined. She did not expect ever to be any better. Her urine looked like swill, containing urates, albumin, and other kinds of waste matter, and having a specific gravity of 1030.

We gave this woman a thorough cleaning out, which took three weeks, during which time she told me almost daily she did not believe she ever would be hungry again; but the fourth week she could scarcely wait for meal-time. That was five years ago, and with the exception of one week of sciatic neuritis, she has been well and strong ever since. We also built up her blood, as we do in all these cases.

Yet, I say right here, don't expect to clean out the body by giving cathartics for merely a few days. It takes weeks to clean up many of these chronic patients, using every means known to us to eliminate waste matter from the body.

Another case was that of a girl twenty-two years old, who had been treated for two years for indigestion and general debility. She said she had so little life. She was too tired to dress up and go out with her young man friend. I told her there was something wrong, sure. For about two years she had been eating great quantities of chocolate creams. She had a gastric ulcer, bloated abdomen, and was constipated. Hemoglobin was 65 percent. We cleaned out her system and built up her blood, gave her electrical treatment for the constipation, with other suitable remedies, and 30 grains of bismuth subnitrate at night for the gastric ulcer. In three months she was well and full of life.

Last spring a German woman sixty years of age came for treatment. She said that three years ago a paralysis of the left leg and arm began and, in spite of all kinds of remedies, osteopathy, and electricity, she had gradually grown worse, until at that time she could not get her hand within a foot of her head and could walk only with great difficulty. She gave a history of constipation, and of intestinal fermentation at different times for three or four years. Her hemoglobin tested 50 percent.

We cleaned out her system, built up her blood, gave her faradic electricity daily; and in two and one-half weeks she was combing her hair with her lame hand and walking pretty well. In four weeks she was walking up and down stairs as spry as any woman her age and weight.

Nearly all these patients suffer from indigestion, constipation, intestinal fermentation, concentrated urine strongly acid, or, when elderly, of ammoniacal reaction, with aches and pains from head to foot, and nervousness; all of which are, without doubt, the result of a poisoned and lowered blood stream and all of which symptoms disappear when the system is cleansed and the blood is built up.

I don't mean to claim that we cure all of our patients by this measure, but I am confident a large part of ill health, especially in people past fifty, is caused by autointoxication associated with anemia, which it nearly always causes.

Dr. Dana said, "Neuralgia is the prayer of the nerve for healthy blood."

Dr. Chas. A. L. Reed, in *The Journal of the American Medical Association*, August 3, 1912, speaking of constipation and headache in women, says: "The almost constant occurrence of these two symptoms in connection with painful menstruation, with tender ovaries and uteri that are more or less misplaced, has led to the general conclusion that these conditions are the actual cause of the constipation and headache. I am now seeing a certain important number of cases in which the pelvic symptoms with the constipation and headaches disappear after the cure of the conditions of the stomach and intestines on which the constipation and headaches depend. The mechanical obstruction of various degrees in the intestinal tract not only causes serious disturbances of digestion both in the stomach and intestines, but causes likewise the phenomena of constipation, with resulting hyperabsorption of toxins that are physiologically elaborated in the primæ viæ. The absorption of such toxins causes headache, nervousness, mental depression, and numerous other phenomena often grouped in the clinical picture of neurasthenia."

Dr. J. M. Mathews, of Louisville, Ky., in his book, "Disease of the Rectum," says of constipation: "It is also true that, if the calls of nature are not heeded, the watery constituent is absorbed and being absorbed passes into the blood. It is very easy to understand what the effect of all this is. Fecal matter can be no more nor less to the blood stream than a poison, the red corpuscles are diseased by it, they are altered in color and have less power, their health-producing and life-giving property is destroyed. Instead of the red cheeks and bright complexion, the rapid circulation and energy that are supplied and caused by these corpuscles, we have after the absorption of the fecal mass into the circulation the sallow complexion, dark rings under the eyes, cold extremities, a less supply of oxygen, and a lethargy which is due to a vitiated condition of the blood and enfeebled corpuscles."

I should like to hear again from the "family" and the editor, for in spite of all that has been said and written on the subject there must be millions suffering from this unnatural, unhealthy, and unnecessary condition.

Elmer T. Davis.

Kansas City, Mo.

A FEW PICTURES THIS MONTH

Again we show a few pictures of readers of Clinical Medicine and their homes, these in response to the generous and repeated requests from our friends that we continue this old-time feature. We had a vote on the subject a few months ago (as you will doubtless remember) and every one who expressed an opinion asked that the pictures be continued.

Home of Dr. W. E. Ritter, Whitewood, Virginia

The home of Dr. W. E. Ritter is nestled up among the Virginia hills. With its broad porch and the shade of that big tree in the front yard it must be a mighty pleasant place in the summer. How's the hunting, doctor? The wood in the background looks good to me.

The two little fellows on page 349 are Dr. G. W. H. Moore (on the left), who remarks that "the small, dark man on the right is my chum, Dr. Griffin, the tooth-carpenter." They live and (pretend to!) do business in Lind, Washington.

Dr. A. T. Cuzner, of Gilmore, Florida, is one of our oldest friends. He belonged to that rare coterie of pioneer dosimetrists which included Coleman, of Texas, and dear old Epstein. Thank God, Cuzner is with us still—working among his fruits and flowers, writing for the press, and practicing his profession. May he be preserved for many, many years.

In the long boat shown on page 351, you can see Dr. A. R. Hollmann, of Mexico, and his wife. It shows a flat-bottomed piragua. Dr. Hollmann has written frequently for Clinical Medicine.

If you enjoy looking at these pictures you may feel sure that others will enjoy looking at those you may send. We are always delighted to get pictures that show how our readers live, how they look, that present unique views of their surroundings, their patients, and their work. So again we urge our readers to send in pictures. We have a number on hand, and these will be used from time to time, a few a month.

PHENOL APPLICATIONS IN ERYSIPELAS

A short time ago my attention was called, by an article in some journal, to the use of phenol and glycerin, equal parts, as a local application in erysipelas.

I have just used it in a case of a 6-months-old baby. Erysipelas developed from a light wound on the left hip and had spread to the abdomen and below the knee when I saw the patient. The spread was arrested immediately upon the application of the phenol and glycerin mixture mentioned, but I ordered

dered the applications continued every four hours, to be covered lightly with gauze. After six applications the nurse reported the urine very dark and I ordered the applications discontinued.

Internally I gave calomel and castor oil, also pilocarpine, copper sulphocarbolate, and galactenzyme, to arrest all gastric disturbance. The recovery was complete and uneventful, except for the scare of the phenol absorption, in ten days.

E. E. Flagg.

Curtis, Okla.

PLUMBISM

Under the new Illinois law, all employees who are in hazardous occupations must undergo a physical examination and then, afterward, submit themselves to a monthly inspection. This, no doubt, is a great benefit, not only to the workingman himself, but to his family as well. All the workingmen who come under this act should appreciate the spirit in which it was made, for it was the laboring element which demanded its passage. As a rule the foreign element look upon it as a hardship and as operating against their interests—but they gradually are beginning to see the benefit of it and many are now lending all the aid in their power.

One of the principal industrial diseases and the one which is most frequently brought to the attention of the examining physician is plumbism, which is very common among painters and sanders working with paints containing lead. It is not an uncommon sight to see one whose hands and face are covered with paint working away with a paint-brush in one hand and a sandwich in the other or taking a chew of tobacco or a pinch of snuff from his pocket, just absorbing the lead into his system and never having a thought of using a preventive or taking the ordinary care of cleanliness. Such a man keeps on until he grows sallow, loses appetite, becomes constipated, begins to have cramps in his stomach and various muscles of the body (which he blames upon something he has eaten), and finally his muscles begin to atrophy and lose their elasticity. He never thinks of doing anything for himself until he finds himself bedridden, and only then appeals for medical aid.

In large factories, when the first examination takes place, it is done under all kinds of obstacles. The workingmen protest, thinking their rights are being taken away. They take the attitude that the examining physician "has it in" for them and "will give them the worst of the deal," if possible. In giving answers, they will evade, and do everything possible to throw the physician off the track.

Dr. G. W. H. Moore, Lind, Washington, with his "tooth-carpenter" chum, Dr. Griffin

Indeed, the examining physician's duty is arduous, because the only evidence he can be positive of, regarding the case, is the blue line upon the gums. He is compelled to make his diagnosis from purely objective signs, for invariably he will get negative answers. Then it becomes the examiner's duty to make his diagnosis upon the objective signs that he may find, which is the blue line upon the margin of the gums.

But, also, one may find a typical case of plumbism without the blue line. It is true, a blue line is found in some forms of diabetes, but it has characteristics of its own. As a rule the person's skin will have a peculiar putty-like appearance—and some have a very pronounced odor coming from the skin, and the same odor emanating from the breath. Generally the teeth will all be covered with a black deposit—the oxide of lead—and will be found in a state of decay; there will also be inflammation of the gums and pyorrhea. In nearly all cases the pulse will be very much slowed. The hemoglobin will be very much below normal.

After the doctor has made his diagnosis and the man is booked for a change of occupation, he will invariably turn up in the doctor's office and say: "Yes, doctor, I tried to fool you, for I have been having cramps in my stomach and muscles so badly I could hardly work. I have no appetite, cannot sleep, and my bowels move only about every six or ten days. I want you to take me in hand and straighten me out as soon as possible so I can return to my old position."

Dr. A. T. Cuzner, Gilmore, Florida, one of our oldest and best friends

There is no doubt the results of the new law will bring to our notice a better and quicker method of treatment than at present. My procedure is, to commence by giving large daily doses of magnesium sulphate together with a saturated solution of potassium iodide, commencing with 2 drops in milk three times a day and increasing the dose every second or third day until tolerance; together with chromium sulphate, 8 grains four times a day. I instruct the patient to drink all the milk he can comfortably hold. If it is a mild case, in about six weeks the man will be enabled to resume his former occupation safely. I instruct him to take a bath every night; see that his hands and nails are properly cleansed and that no evidence of paint is under the cuticle; and to take the sulphate of magnesium three times a week, to help keep up the work of cleaning out and keeping clean.

G. M. McLean.

Pullman, Ill.

[I am sure our readers would be glad to have more of these articles upon the industrial diseases. Perhaps Dr. McLean, from his large experience in a great manufacturing center, can and will give us more. Please do so, doctor.—Ed.]

CINNAMON WATER FOR THE STENCH OF CARCINOMA

I note what Dr. J. R. McClintock has to say in the February Clinic about the use of a weak solution of carbolic acid for getting rid of the very disagreeable odor of carcinoma by injecting it into the mass. The odor of carbolic acid is as objectionable to some persons as is the cancerous odor; and at times its use is followed by serious toxic effects—at least it has on one occasion in my experience.

I now use in its stead in those cases, as a local wash, cinnamon water; I also use it as a spray with an atomizer, to destroy the highly objectionable cancer fetor in the patient's room and the adjoining rooms. I have also used it in cases of senile gangrene with satisfactory results. For these purposes it will be found to be very serviceable, and, besides, it is quite agreeable to the olfactories of most persons.

George D. Stanton.

Stonington, Conn.

QUACKS AND QUACKERY

In regard to my article on "Quacks" in the February number of Clinical Medicine, I wish to state that a number of physicians have written me in concerning it, favorably and otherwise. I wish to say that it has done good in my territory and that I have no copyright on the ideas there expressed. Anyone desiring to have the article printed on slips—as it is or with changes or additions, may do so. Several doctors have written, asking my consent. I will say, however, that I have added a few lines to the original on advertising quacks, which I think adds to the value of the article. A copy of the same will be mailed to anyone enclosing a stamp for postage. I've had these published in our county papers. They have done good, too.

O. C. CHURCH.

Greenville, Ill.

THE BALTIMORE HOME FOR DOCTORS' WIDOWS AND ORPHANS

We have had two cases—that sounds almost too professional—to enter the Home who enlisted our deep interest and sympathy. The first was an aged lady, whom we found at the Anne Arundel County Almshouse—a wretched place. She had been there about six months, and was the only white person in the institution. We found her a refined, sweet, patient person, eighty-four years of age, widow of a physician and also the daughter of a doctor. Her father, Dr. John Calhoun, lived in South Carolina, and was a near relative of the great statesman John C. Calhoun. Her husband, in his time, practiced in Washington City, but has been dead many years. The old lady has seen better days, but her friends all died, and, after supporting herself by housekeeping, she finally drifted into the poorhouse. You would be deeply interested in her, for she is so bright and cheerful and so happy. We are deeply pleased to be able to open the Home to her. Such a case alone shows the need of and is justification for the Home. This is one of Mrs. Cordell's "babies."

Now for the other one. At about the time the old lady came we heard of an old doctor, seventy-five years old, out at Bayview Asylum, the Baltimore almshouse. My wife and daughter went out and brought him in. It is a story of too much generosity and improvidence. He had a good income two or three years ago, but broke down and, having no money, family or friends and not being able to get into any other place, he drifted into the poorhouse. This happened about two months before we found him there. Bayview is a horrid place—even this poorhouse of a great city—crowded, filthy, the patients and inmates neglected and hopeless. The man is very feeble, with a bad cough, and he cannot last very long. I think this case will interest you more than the other.

I might tell you of another "case"—of a widow and her little daughter, from Ohio originally, her husband being a graduate of Western Reserve University. For some years she has kept a rooming-house here, but recently she failed, her furniture was sold, and she was put out into the street without money. We took her in and found her very intelligent and helpful. We gave her work and wages. She had been a trained nurse before her marriage and we advanced money to have her registered in the Nurses' Exchange. She appears to be very thankful and happy, and hopes to take up nursing and keep herself up in the world. The little girl—a bright child—goes to public school and is learning music. This lady was contemplating suicide when we found her.

We are very busy getting ready for our Theater Benefit in April.

I have been sick in bed with the grip for the last week and was just up. This is the first letter I have written and isn't what I should like to send you. Mrs. Cordell sends regards.

EUGENE F. CORDELL.

Baltimore, Md.

[This is from a personal letter written us by Dr. Cordell, who, with his good wife, has been working so hard to make a success of the home for the widows and orphans of physicians, located in Baltimore, concerning which we have told you so much in months past. We are sorry that so few of the "family" have responded to the call for help. This is a great charity, a noble one, and every doctor who reads these lines ought to give something for the widows and orphans (yes, and the aged and incapacitated doctors themselves) which these generous people are trying so hard to

Dr. A. R. Hollmann and wife, sailing down a Mexican river help. Won't you do *something?* Do send a dollar, five dollars, ten. Better attend to it today.—Ed.]

CORNS AND CORN-CURES

Corns are an abnormal localized thickening of the epidermis, occurring more often on the feet; but they may also be found on the hands, especially of individuals who do considerable manual labor implying much-repeated pressure. These corns on the feet are produced by anything causing continual pressure or friction, as tight or ill-fitting shoes. A predisposing cause is softness and tenderness of the skin due to lack of exercise and circulation of the blood, so that the toes are easily compressed.

Two varieties of corns (clavus) are recognized: (1) Hard corns, which occur on the exposed surfaces, particularly the upper parts of the toes or on the inner and outer sides of them. (2) Soft corns, which occur between the toes.

Hard corns are more or less conical in shape, and it is the pressure of the apex of this cone upon the papillary layer of the corium that causes the pain and which so often is intense. They may be quite small, or they may broaden out considerably, and they may occur singly or in groups. When neglected, suppuration may occur, and the pus be prevented from escaping by the hardened cuticle; this often causing a good deal of pain and inflammation of the skin and tissues around, which may lead to ulceration.

In order to prevent corns from forming, tight shoes must be shunned. The feet should be bathed in cold water now and again and rubbed well with a dry bath-towel. Walking should be freely practiced. Some of the substances employed for destroying corns are glacial acetic acid, monochloracetic acid, trichloracetic acid, salicylic acid, sodium hydrate, and sodium ethylate.

In my opinion, however, there is nothing better for removing warts or corns than salicylic acid and collodion; for salicylic acid has the property of attacking abnormal or diseased tissue while leaving all healthy tissue untouched. Hence its value in removing corns, warts, and the like, and painlessly at that. The other substances mentioned above may be of some use, but none of them are half so good as salicylic acid. To remove a corn (or a wart) with glacial acetic acid requires patience and time. Following are two approved formulas for salicylated collodion:

1.	Salicylic acid	grs. 15
	Extract of cannabis indica	grs. 8
	Alcohol	m. 15
	Ether	m. 40
	Flexible collodion	m. 75

Paint on three times a day for a week, then soak the foot in hot water and pick the corn off with the finger-nail.

2.	Salicylic acid	dr. 1
	Extract of cannabis indica	grs. 10
	Ether	drs. 2
	Flexible collodion	drs. 6

Apply three times a day.

Over the corn apply a plaster with a hole in the center, to relieve pressure.

John C. Warbrick.

Chicago, Ill.

PUBLICITY FREEDOM FOR DOCTORS

In a recent editorial in Clinical Medicine these words appeared: "The barriers should be swept away and the physician be given all the avenues of approach to the public, and they to him, which are open between the public and every other man."

I want to use this as a text for a short sermon on medical publicity. I am aware that the editorial from which this is quoted seeks, more than anything else, freedom to use the lay press for the purpose of disseminating useful medical information and incidentally to give certain doctors beneficial publicity. I want to discuss the subject from a broader point of view.

The past and present attitude of the profession has been, and is, hypocritical—we must admit that; and the newspapers have not failed so to judge, and so, too, the intelligent laymen. When local societies pass rulings that doctors' names should be omitted from news stories, then, when many leaders receive newspaper publicity and some even try to sneak in reports of this and that wonderful operation, newspaper editors, recognizing any or all the subtle schemes resorted to by many doctors to gain creditable publicity, cannot help feeling a justified contempt for our ways.

Publicity every doctor must have. In the village and country practice the doctor has only to whizz about a few days in his new auto and show himself in the church and in social and public affairs of his locality to be soon well known and "ethically" advertised. The village and the country doctor, therefore, need no more freedom than they now enjoy. I do not suppose ethics would be offended if the live-wire village doctor should print booklets of useful information, such as "Hints to Prospective Mothers," "How to Build Septic Tanks for Sewage Disposal," or any other subject of useful medical, sanitary or hygienic information, and on these imprint his card.

Recently I have issued such a booklet, entitled "What You Ought to Know About Doctors," and in this I have sought to teach people to be loyal to their physicians; I have exposed quackery and fake medical advertising, and on the whole tried to make it something of benefit, first to those who read, then to doctors as a whole, and lastly to me, as a bit of personal advertising. If you want a copy of this pamphlet, send postage, and it will come prepaid.

The large-town and city doctor must find his publicity in other ways. It is not my purpose to mention any of the many subtle schemes the hustling city doctor uses for this end. You know all this as well as I can tell you. I only want to say that laymen judge all this effort as a form of hypocrisy; and, in reality, many of these ways and means, such as corporation service, lodge practice, contract practice, medical-service club practice, insurance work, particularly that of industrial and liability insurance, are decidedly unethical, unjust, and wrong, any way you may look at it.

Publicity for the men of national reputation is easy. Newspapers may fill up much space about the doings of a Murphy, a Crile, a Mayo, and so on, but, if the newspaper down at Tompkinstown tells of a new and interesting operation done by Dr. Tinkler at the local hospital, the local society will almost throw Tinkler out for advertising.

If in Youngstown, Ohio, where I reside and do my work, Dr. Hustler buys space and tells the public who he is and what he has to sell, though he does his work far more ethically and honestly, and perhaps as skilfully as any of his colleagues who enjoy "good standing," the good brothers will call Hustler a "quack"; and should he be in the local society, they would kick him out, and if he is out, he must stay out.

It is not to be wondered at that business men say, "These doctors strain at gnats and swallow camels." It is not surprising that lawyers, bankers, and business men look upon medical ethics as a farce. Their personal relations with doctors teach them that we are as keen to get business, to collect good fees of size for our work and to have means whereby to enjoy life, increase our powers for work and improve our abilities as anybody else. Then, why, they ask, need we assume this stilted, mysterious, sanctimonious air of ours, as if we were not business men, but medical high priests who would lose our charm if people only knew we were just human like other folk.

Does the profession enjoy the jokes and ridicule seen in all current literature because of this? Doctors have been the butt of the joke about long enough, and the cure is to shed this cloak of hypocrisy and be just honest, scientific business men, doing business and seeking business by modern business methods, governed by the ethics of the modern business world. In short, let us rationalize medical ethics.

This brings us to an important phase of our subject, the matter of medical-quack advertising. Until now the profession has sought to cure the disease by ignoring it, by condemning it, but injecting into reciprocity non-advertising promises, by expelling members detected in using any sort of paid-for advertising, and by showing a very narrow-minded conception of the situation generally.

The cure for quack advertising is a case of "fighting fire with fire," for the cure is advertising. It may seem homeopathic, but it will do the business. Remove all ethical barriers from the professional use of bought-and-paid-for publicity, and you will soon teach the people to discriminate against dishonest medical advertising, just as they now do against dishonest mercantile advertising. They will soon demand national law to protect themselves against it, just as the lottery business was cured. They would make newspapers a party to any fraud published in their pages and the result would be clean, honest, useful medical advertising, just as is now done by bankers and merchants.

The cure for quackery lies deeper than the ethical rule against advertising. What will cure the quackery within the ethical ranks will also cure that on the outside. The only cure for dishonest work, grafting methods and all trickery is some legal authority to censor a doctor's business affairs, just as banks are now inspected. This would mean, when a doctor was found doing dishonest work or using his license for a private graft, it would be revoked.

Nine of ten advertising doctors are almost daily guilty of obtaining money under false pretense, yet how few are disturbed. How little is done by the organized profession to clear the name of doctor from all this reproach. What have we done to stop the nostrum trade, which every day uses the newspapers as a party in a conspiracy to gain money from the gullible sick? What are we doing about all this?

We are still calmly wearing our cloak of ethical punctiliousness and saying over and over again, "Medicine is a profession, a dignified profession, not a business." No, it is not a business, it is a mysterious profession, still impregnated with the mummery of medieval priestcraft.

However, the strong exploit the weak. Specialism makes trade drummers out of the general doctors and bribes them with commissions. Surgeons split fees to salve the family doctor's conscience, and medicine has become as much a game of wire-pulling and sharp practice as politics itself.

Four years ago, having these convictions fully settled, I began to tell the people who I was and what I had to sell. I exposed medical quackery and advertising pirates as fully as I could. Several fakers have had to leave the town for want of business. It is now a much poorer field than formerly, and the newspapers—so the advertising managers tell me—are on the point of excluding all fake medical advertising. Still, the local society has not as yet passed a resolution thanking me for my efforts.

If medical men would take the right attitude, editors would gladly employ medical skill to pass editorial opinion on all medical advertising offered to them. Laymen are doing more to destroy this evil than the doctors. In fact, the doctors are doing nothing. (See *Journal A. M. A.*, Jan. 11, 1913, page 134.)

We could easily educate the public to demand protection by proper laws against fraudulent advertising and against dishonest practice. This would easily remove the barriers mentioned in our text. The day of quacks, both ethical and unethical, is nearing its end.

Doctors are not awake to the signs of the times—but it is surely coming—that medicine will do a little Augean stable cleaning that will benefit both the doctors and the people.

C. Elton Blanchard.

Youngstown, O.

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[Dr. Blanchard's article reads well—but, after all, it is an apology for physicians' advertising. That it is an able apology we can readily admit. The Doctor makes out a good case for "ethical" advertising, and if all medical publicity could be done and would be done on the high plane that he suggests all might be well. The trouble is that practically every man who starts in to advertise, while he may have the best of intentions and may be determined to present himself in a perfectly clean and ethical way, sooner or later is almost sure to degenerate, telling his story in a quackish way, claiming the impossible, promising miracles, deluding the unfortunate—in fact, ends by becoming a quack, pure and simple. Why is it that practically every mother's son of a doctor who starts out to make his living by printer's ink rather than by his own skill starts sooner or later to go downhill? There are a few men, like Doctor Blanchard, who may do clean newspaper advertising, but for the overwhelming majority it is dangerous.—Ed.]

POETRY AS A SUBSCRIPTION "PULLER"

Not long ago, in order to encourage promptness in renewing subscriptions to Clinical Medicine, we sent out with our regular billing some copies of the poem that follows:

How dear to our heart is the steady subscriber
  Who pays in advance at the birth of each year,
Who lays down the money, and does it quite gladly,
  And casts 'round the office a halo of cheer.

He never says: "Stop it; I cannot afford it,
  I'm getting more journals than now I can read."
But always says: "Send it; we doctors all like it—
  In fact we all think it a help and a need."

How welcome his check when it reaches our sanctum;
  How it makes our pulse throb, how it makes our hearts dance.
Outwardly we thank him; we inwardly bless him—
  The steady subscriber who pays in advance.

Now note the response! Not only did many send in the money promptly, but quite a number of our readers replied in kind—with verse. One of our friends wrote us that he had no desire—

"To hear from a manager, so often, so green,
  To dun old subscribers"—

yet the doctor assured us that he wasn't going to have his journal cut off, just the same. Lack of space only forbids our giving more of this poetry. However, there are two contributions that we must print, and here is the first one:

Perhaps I am classed as a steady subscriber,
  As I've taken your journal for several years,
And nothing on earth except lack of "mazuma"
  Would cause me to fail and fall into arrears.

I look for its coming with anticipation;
  I'm peeved and disconsolate when it is late;
I cannot afford to miss even one number;
  Without it, I feel that I'm not up to date.

Send again, Doctor Abbott, this fountain of knowledge,
Whose pages your efforts so greatly enhance,
I wish you long life and complete satisfaction.
Your work is well done—here's a check, in advance!

Lucien D. Clark.

Akron, O

We hope—and we believe—that there are many thousands of other readers of Clinical Medicine who feel just as Dr. Clark does!

Another steady reader sent us the following parody upon the subscription verse, as follows:

How dear to our heart is the ready-pay patient
Who settles right up at the close of his case;
Who lays down his money, and does it quite gladly,
And is grateful that we beat out death in the race.

He never whines, "Stop, I cannot afford it;
No need of these visits—I'm on to your trick";
But always says, "Come, I want to get better—
And keep right on coming as long as I'm sick."

How welcome his money, how much it relieves us
To think that it came without even a dun;
We outwardly thank him, we inwardly bless him—
The ready-pay patient who is prompt with the "mon'."

W. D. P. Lester.

Indian Fields, N. Y.

May we, oh may we, hope that some of the few who read Clinical Medicine and happen to be in arrears for their subscription, may make a special effort to hustle up collections—and "be prompt with the 'mon'"?

A NEW CONSUMPTION CURE

Considerable stir has been made in Chicago by a new method of treating tuberculosis, devised and introduced by Dr. Peter P. Duket. This has attracted a good deal of attention, especially because it has received the financial support of the Hon. William Lorimer, formerly United States Senator from Illinois. Briefly, the matter stands as follows:

A few months ago Dr. Duket came to Chicago and soon after brought his method of treatment to the attention of the Rev. James F. Green, head of the Augustinian order of the Catholic Church in Chicago. The method was tried upon a number of patients, the first being a young priest in an advanced stage of tuberculosis. This young man, after seven months' treatment, has gained fifty pounds in weight and now seems to be well. The method has been put to the same test on eighteen other patients, some of them far advanced, and of these it is alleged that twelve are practically cured.

Becoming enthusiastic over Dr. Duket's results, Father Green took up with Ex-Senator Lorimer the problem of interesting the medical profession. The Senator was so well satisfied with what he learned that he is now supplying funds for the establishment of a laboratory in connection with St. Rita's College, to be known as St. Rita's Laboratory for Tuberculosis, where the Duket treatment can have a thorough trial under scientific conditions. This laboratory is to be operated in connection with the Medical Department of Loyola University (Bennett Medical College). It is said that Senator Lorimer has agreed to provide any amount of money required for its maintenance, up to one million dollars.

St. Rita's Laboratory is to be headed by that able pathologist and research-worker, Dr. Maximilian Herzog, well known to every Chicago physician, and formerly government pathologist in the Philippine Islands.

REMOVING WARTS WITH FOWLER'S SOLUTION

I notice in the "Condensed Query" column of the January Clinic that Max J. Walter recommends the removal of warts on the eyelid by means of electrolysis. Let me say that a few applications of Fowler's solution of arsenic on a bit of cotton or a swab on the end of a match or a camelshair pencil will do the trick. Three or four applications daily for a week or so will cause the wart to shrivel and drop off.

George D. Stanton.

Stonington, Conn.

OUR LONDON LETTER

At a meeting of the medical section of the Royal Society of Medicine on January 28, Dr. F. Parkes Weber, physician to the German Hospital, London, reported a series of five cases in which patients who were undergoing arsenical treatment developed a mild form of pneumonia. The relation between herpes zoster and arsenic is well known, and Dr. Weber suggested the possibility of a similar connection between pneumonia and arsenic as worthy of investigation.

This recalls attention to an old clinical belief that the presence of herpes labialis is always indicative of the existence of a pneumonic process, although it may be very mild and localized and almost impossible of detection by clinical means.

Doubtless you have had enough about the Insurance Act, but a few of its achievements may be of interest. The Act has been in operation now nearly one month, and thus far it has on record to its credit six deaths (in four of which inquests were held) in which the patient had inadequate attendance and sometimes none at all, due to the pressure of red-tape and clerical work thrown on the "panel-doctor." This clerical work alone absorbs several hours daily of each panel-doctor's time in an industrial district, with the result that he has little chance to attend to his proper duties, which are perfunctorily done in consequence. Several doctors complain that they have lost most of their private practice; for, of course, insured patients have the prior legal claim upon the doctor's time and services.

Quite often clerks had to be hired by the doctor to do the clerical work, or the doctor's family have been pressed into service. The death of three doctors is known to be due in a measure to overwork or worry caused directly or indirectly under operation of the Act.

Practices, once a salable asset of capital value, are now for the most part unsalable where they lie to any extent among the industrial population. A Dundee doctor worked out his first fortnight's work, and found that the remuneration was at the rate of 9 cents (4½ pence) a visit. Doctors practicing in industrial, ready-money districts, instead of receiving cash, now have to wait three months for their pay. As a consequence, some of them have already appeared in the debtor's court.

As was to be expected, it is found that the doctor's services are in fact requisitioned for the most trivial things—one doctor complains that he was called upon to cut a patient's corns! Consequently the amount of work is enormous in industrial districts. A Nottingham doctor had to attend 62 of his insured clients in one day. That, however, is nothing to one Dr. Jelley, in the East End of London—"the threepenny doctor" he used to be called, from his fee before the Act came into operation. This doctor testified at an inquest, with pride, that he had attended 433 patients in one day, and he liked it! Quantity, not quality, evidently weighed with him.

As to the patients, they complain on all hands that the aged and infirm are worse off than ever. There no longer are any club-doctors, and they can not be insured. Even persons who are insured and have paid up their dues have had to fall back on the workhouse infirmary in some instances. In others, they are bandied about between hospital and panel-doctor; the latter insisting upon referring them to the hospital, which in turn holds that their's are only ordinary cases coming "within the competence of a general practitioner" and therefore refuses aid.

Many reports are forthcoming that several days elapse between the call for attendance and its provision. Others, insured persons, willing to lose their medical benefit and continue with their own doctor (not on the panel) who has, perhaps, attended them for years, and to pay his ordinary fees, find they cannot do so, because his certificate will not be accepted for sick-pay unless he complies with all the red-tape servitude, the abhorrence of which is his main reason for refusing to go on the panel.

The hospitals everywhere are complaining of a serious decrease in their incomes. Large employers of labor who have hitherto given generously are now heavily taxed by the Act for medical attendance upon their employees; they naturally refuse to pay a double amount. Employees who are now taxed for medical attendance equally naturally refuse to go on subscribing to hospitals. Large hospital funds and collections have seriously fallen off, one fund alone to the extent of $350,000. Meantime, the compulsory cost of insuring their employees adds some thousand dollars a year to the expenses of the hospitals.

Lastly, there is already a serious diminution in the number of entries at the medical schools. And except, perhaps, as regards the possible simplification of the clerical work, it is my belief that all these difficulties will greatly multiply instead of diminishing with time, unless the Act is radically amended. The moment the medical man's freedom is fettered by rules and regulations his utility is seriously impaired. The conditions in the military and naval services which have been adduced as a counter argument are in no sense comparable. There, the individuals are not the free agents, but parts of a machine subject to discipline. It is impossible to reduce the population of a country permanently to that status.

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Thus far the House of Lords has contained but two medical men, Lord Lister and Lord Ilkeston, and both have died within the past twelve months. Lord Lister's peerage was granted solely upon his scientific merits, which are known to the whole world. Lord Ilkeston, although as Sir Balthazar Walter Foster he was a physician of some distinction, owed his peerage rather to his political than to his scientific achievements.

He began his political career as a member of the municipal council of Birmingham in 1883, in which city he was a prominent physician. He entered Parliament in 1885 in the Liberal interest, where he remained, save for one year, until 1910, when he was raised to the peerage as Baron Ilkeston. Although he soon found a parliamentary career incompatible with active performance of the obligations of his profession, from which, therefore, he gradually withdrew entirely, his professional knowledge was always at the service of the House, and by conscientious attention to duty as a direct representative of the medical profession on the General Medical Council of Education and Registration he continued to uphold the interests of the profession. He was the first medical man who ever became a member of any political administration, being appointed, by Mr. Gladstone, in 1892, parliamentary secretary to the local Government Board. In 1905 he was made a privy councillor.

It has been a subject for remark that of those leading members of the medical profession in Great Britain who attain hereditary rank, in very few cases, indeed, does the eldest son and heir follow in his father's profession. The new Lord Ilkeston, the Hon. Balthazar Stephen S. Foster, is a barrister and stipendiary magistrate for Birmingham. An exception to this rule is Sir John Broadbent, Bart., son of the late Sir William Broadbent. Like his father, Sir John Broadbent is a medical man, and, like him, also is a physician to St. Mary's Hospital, London.

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At the Central Pow Law Conference, held on February 11 at the Guildhall, London, Major Leonard Darwin, who is president of the Eugenics Education Society, in a paper devoted to mental deficiency inveighed strongly against the present state's fostering of mental defectives. He urged that, by compelling the parents of the normal child to feed him and supply him with boots to walk to school in, while the mentally defective child was carried to school, fed there, and supplied with boots, was putting a premium on race suicide among the best elements, and on unrestricted procreation among the worst in the community; for the lessening of the strain on the parents of defectives must certainly tend to promote the fertility of the class. He held that, in the case of a strongly defective stock, no relief, charitable or otherwise, should be given to parents outside of the workhouse (which, of course, implies separation of the sexes) until they had passed the capability for procreation.

He expressed the hope that in time "better means of racial regeneration would be both discovered and sanctioned by public opinion." For the present, the main hope lay in dealing with the feeble-minded child from infancy onward, so as to prevent its procreating in adult life. Institutional experience demonstrated beyond doubt that a large proportion of the mentally defective remained contented while under control, but with freedom came only misery and disgrace.

There can be little doubt that the crux of the situation rests in the obtaining of the sanction of public opinion for the employment of effective measures against procreation. It is a thousand pities, from an educative point of view, even apart from its effective power, that the Mental Deficiency Bill, being only a measure of true statecraft, should have had to be sacrificed by party exigencies to merely political measures, such as have almost exclusively occupied the attention of the present parliament.

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A very interesting and exhaustive summary of the literature on the therapeutic action of splenic extract and its application in the treatment of tuberculosis, by Dr. Henry Hanover, formerly of Chicago, appears in *The Lancet* for February 22, 1913. Dr. Hanover sums up his article, which has elicited very favorable opinions from some of the most noted English therapeutic authorities, as follows:

"The use of splenic extract has been advised in several diseases, and it is believed, not only on general theoretical and experimental grounds, but from actual clinical experience, that it is useful in tuberculosis, and that its value is presumably due to certain splenic hormones, on which, in a degree, the following phenomena are dependent:

"1. The defenses of the blood; leukocytosis, phagocytosis, and, possibly, hemoglobin formation and iron metabolism. (2) Tryptic digestion, thus directly increasing assimilation and nutrition, permitting an increased intake of food, and indirectly relieving the emunctories from the excessive work common in toxemia and suboxidation. (3) Intestinal digestion and the production of enterokinase. (4) The process of healing, both as regards the prevention of hemorrhage and the stimulation of rapid connective tissue production. (5) Antagonism to the tubercle bacillus by an influence on its culture-medium, due to the production of a certain colloid substance (Bayle). (6) And, finally, the function of the spleen itself."

"M."

London, England.

A CHAIR IN GERIATRICS

For many years this journal has been insisting upon the differentiation of a group of pathologic conditions peculiar to old age, just as we differentiate a special class of diseases in childhood, and has urged that there be established a special literature and a clinique dealing with the subject under the title of geriatrics. It is gratifying to learn that a step in this direction has at last been taken, in the establishment of a chair of geriatrics by an eastern medical college. The College of Physicians and Surgeons of Boston, Massachusetts, has just instituted such a chair, to which it has appointed Dr. I. L. Nascher, of New York, who will give a systematic course of lectures and clinics on diseases of the aged.

So far as we are aware, this is the first public recognition of geriatrics as a special branch of medicine, and we congratulate the Boston school upon its pioneer step. We also congratulate it upon its wise choice of a man to administer the chair. Dr. Nascher has given a great deal of study to this subject; indeed, his personal work and teaching have been a large factor in obtaining for it recognition as a specialty; and he is peculiarly fitted to represent it in a teaching institution. Under his tutelage, we look for geriatrics to become a broad, practical phase of the science and practice of medicine.

COMPARATIVE VIRTUES OF SWEAT-BOXES

I have just read Dr. A. H. Chandler's article upon "Vinegar for Hot-Pack Sweating" in the January, 1913, issue of CLINICAL MEDICINE. I am satisfied all he says is true, but I don't think this method of producing diaphoresis would be approved of by the average layman. In my opinion, a much better plan would be to use a vapor-bath cabinet and vaporize the vinegar over the lamp in the cabinet; in other words, give an acetic-acid vapor-bath. This would be looked upon by the average layman as being more scientific and, I believe, would give a physician more prestige than to use hot bricks and vinegar in the bed. Portable vapor-bath cabinets can be had anywhere.

The vapor-bath inside a good cabinet is very important in many conditions. The superheated-air apparatus is still far in advance of the vapor-bath cabinet. Dry hot air can be tolerated up to 500° F., and much more can be accomplished with such an apparatus than with a vapor-cabinet. The latter has only one advantage over the hot-air apparatus, and that is, it is portable, while the other is not. Dr. Chandler's bricks or rocks, however, could be obtained in almost any place, which would be worthy of consideration when the vapor-cabinet was not at hand.

The superheated-air apparatus is superior, for the cure of disease, to the electric-light-bath cabinet, the therapeutic lamp, vibrator, galvanic or faradic electricity, and all other common apparatuses in use. It has as wide range of action in acute diseases as well as in chronic conditions.

J. A. BURNETT.

Hartshorne, Okla.

MERCURY SUCCINIMIDE IN GLANDULAR TUBERCULOSIS

I have wondered how the "family" treat glandular tuberculosis. In a series of twelve cases I have not had one failure. I inject the succinimide of mercury, 1-10 grain, intramuscularly once a week. Six or eight injections usually suffice. In pulmonary tuberculosis it is not of much value.

C. A. BEVAN.

West Haven, Conn.

THE SIGNIFICANCE OF PAIN IN THE SHOULDER IN APPENDICITIS

In the *Therapie der Gegenwart* for November Dr. Lochmann relates two cases of appendicitis in which severe pain was complained of in the right shoulder. Without an attempt to explain this peculiar localization of pain, the author cites Prof. R. Schmidt to the effect that pain in the shoulder which is caused by lesions in the abdomen may be due to inflammatory processes in the liver, stomach, spleen or their surroundings. The sensation of pain is transmitted through the phrenic nerve. It appears, therefore, that the extension of the inflammation from the appendix to the peritoneal covering of the liver is responsible for this severe pain in the shoulder which the author observed in his two cases.

ATROPINE IN PNEUMONIA: A QUERY

As we all know, in the presence of all internal congestions, atropine seems rationally indicated. It is employed when the organs of the abdomen are involved, and it is recommended in instances of this sort. The theory upon which atropine is used is, that it determines the blood to the peripheral circulatory system and thus relieves the internal congestion. In inflammatory processes of the upper air-passages, such as laryngitis, pharyngitis, coryza, and tonsillitis, we know that, when atropine is administered early, we generally succeed in aborting the condition. We have learned, through the experience of the many, that a full dose of atropine, hypodermically, will, through determination of the bulk of the blood to the surfaces, not infrequently is able to overcome internal hemorrhages.

Recognizing these truths, we would ask why it is that this agent is not employed to a greater extent in the treatment of congestions and inflammations of the thoracic respiratory organs. Why cannot an attack of pneumonia, when seen in the early stage, be aborted by a few full doses of atropine or by smaller doses given at frequent intervals and pushed to effect? Why cannot an acute bronchitis be either aborted or abated through the use of this drug, pushed to effect? The textbooks say that under certain conditions atropine may be employed in this class of respiratory diseases. If the drug is indicated in the congestions and inflammations of the abdominal organs, as well as of the pelvic organs, and employed in this connection with success, why is it not as thoroughly indicated in such processes within the chest? The writer never has used the drug in this connection, but it certainly does seem that the indication for such application is a plain one.

If, as in the inflammations of the upper-air passages, atropine will give as prompt and satisfactory results in such conditions of the lower portions of the respiratory organs, we believe that it will be possible to abort practically every attack of pneumonia or bronchitis encountered sufficiently early in the course of its development.

Atropine will surely serve to equalize the circulation in these conditions exactly as it does in the inflammatory processes of other organs. It will serve to "bleed" the internal apparatus, through determination of the blood to the external capillaries. If atropine is indicated in nonspecific conditions accompanied by cold, clammy surfaces, why is it not indicated in the chill of pneumonia, and why will not a full dose of it serve to put a short stop to the congestion of the lung-tissues? It does seem that such an initial proceeding would be indicated in practically every case of pneumonia met with; that it would be rational.

It is not contended that the treatment should stop with the administration of the atropine or that other indications should be overlooked; but, with the determining of the blood to the surface, we believe that the subsequent remedies employed—as aconitine, veratrine, and the other indicated drugs—would have a better opportunity for action. The atropine would serve to pave the way, by removal of the obstacle of superabundance of blood; and, this done, it seems rational that it would be a much simpler matter to control all of the symptoms and conditions usually present.

Through prompt removal of the excess blood, the local temperature undoubtedly would be lowered and the microorganisms would not, in our opinion, flourish as when the congestion is allowed to go on and on, with the usual increase in severity. This interference would mean a lower proliferation of the invading organisms and a corresponding lessening of the toxins of a specific character. We do all this, to a certain extent, with our aconitine and veratrine, through the control of the temperature with these drugs, but they do not act with the rapidity or thoroughness of full doses of atropine, even though they are usually effective.

With atropine, administered to full effect early, we believe that the pleurisy and other inflammatory complications so frequently accompanying pneumonia will be done away with, inasmuch as the inflammatory process will not reach the pleura.

We believe that, with the administration of atropine as suggested, there will be less likeliness of the toxemias so frequently encountered in connection with the diseases mentioned, particularly pneumonia, as fewer toxins will be produced and fewer absorbed if the circulation is equalized.

As we have said, this is simply a theory, a mere speculation, an idea which we have not as yet had opportunity to try out since it has taken shape in the writer's mind. However, it looks reasonable and we should like to hear the opinion of the editor, as well as of others, upon this matter.

The whole theory, as here presented, resolves itself into the idea of circulatory balance, or equalization, and that done with rapidity, and the fact that it has been determined that atropine does this in inflammations of organs other than those of the chest. We sincerely hope that the readers of CLINICAL MEDICINE will not fail to discuss this problem freely, pro and con, in all its various aspects. George L. Servoss.

Gardnerville, Nev.

AN AUTOMOBILE EXPERIENCE

Thinking my experience with an automobile, purchased new in 1911, was unusual, I submitted a list of questions to all of the physicians of the city of Elgin, Illinois, designed to elicit, in detail, their actual experience with cars of many makes and varying in price from the lowest to the better grade of cars. For, having suffered the loss of the use of my car for two winters, whenever the weather approached zero or below, and five-months' time out of service for necessary repairs, I began to think that such a car was defective, especially as the loss of service was evenly divided over the time.

When you experience breakdowns in motor, differential, wrist-pins by the dozen, transmission, electrical equipment, steering-head, and bearings in absolutely every part of the machine needing replacement, all within ten thousand miles, it is an indication, in my opinion, of poor material, combined with very bad designing. Now associate, if you please, with this combination of affairs a statement from the company's officers, in Chicago, that "we are in no way responsible, but the trouble is due to your local garage-men who repaired the car, and that you should hold the latter responsible." This is my experience with a "Studebaker 30." Two other physicians owning Studebakers, on the above list, had the same trouble with their first cars, but having threatened suit upon the guarantee, the proper adjustment was then made upon a different model. I was "jollied" along until my year had expired, thinking that each repair bill would be the last. Moral: If you do not get a good car, get action before the guarantee expires.

No matter what grade of car you purchase, it is liable to develop some weak part, and on the willingness of the selling concern will depend your motor service and satisfaction.

Inquiry among your friends who are actual users of motor cars is the most dependable course of information in regard to any car; and, as a matter of fact, it is more dependable than that of agents and manufacturers. In the list of questions, and the answers thereunto, hereinafter appended, the all-around service, expense, and dependability of the various cars named is covered as far as it is possible. Lack of dependability, especially to the physician, is as aggravating as unusual cost and upkeep, and means the loss of valuable time and practice, for people will not call in a doctor who can not respond promptly when needed.

If a car is hard on tires, it is an important item, and I can assure you, from my own actual experience, that the tire manufacturers will give you but scant courtesy after the first few adjustments. They do not want you to use their tires on any machine that will not deliver at least 3500 miles. When you are contemplating buying, the important matters to inquire about are these: the equipment, and particularly as to the carburetors, electrical outfit, steering-head, cost of fuel, and the general expense of the upkeep and repair.

What satisfaction, if any, did the persons whom you know have with their car and as to the matters above noted? Does the agent handling the car give you correct advice and is he ready to make good the claims that he so loudly proclaimed he would do if you bought his car. "Look before you leap" is a good thing to have in mind when you buy a car, for the future use and enjoyment of your car depends on your forethought.

J. A. S. Howell.

Elgin, Ill.

CIRCUMCISION OR PREPUCE SPLITTNIG?

In your February issue of Clinical Medicine, A. R. H., California, wants to know what is the most satisfactory local anesthetic for use in circumcision, and I want to answer him by asking, Why circumcise anyone?

Our professor of surgery, the late W. F. Peck, in a lecture thirty years ago told the class that circumcision was a relic of barbarity that should have been abandoned long ago. His method was, simply to slit the foreskin on top far enough to release the glans and then let nature take care of it. He stated that the apparent redundant foreskin was simply a lack of development of the penis, caused by the imprisonment with a too narrow foreskin.

I have employed Dr. Peck's method with entire satisfaction, but we now have a much better way, namely, that of dilating the foreskin—which is the ideal way of treating this condition. But once in a while one meets a case where there is a hard, rigid band in the foreskin that can be dilated only with great difficulty and which if forcibly dilated will contract again. Under these circumstances I still resort to slitting open by the Peck

The Tabulated Automobile Experiences of Elgin (Illinois) Physicians

MAKE OF CAR	Horse power	Age of car	List price of car	Total cost of maintenance	Cost of repairs	How long was car out of service for repairs?	Do you consider service and guarantee of manufacturers satisfactory?	Service by agent satisfactory?	Maintenance cost excessive?	Do you consider car hard on tires?	Total car mileage	Average mileage per tire	Number of times disabled on road?	Do you consider equipment, such as carburetor, magneto, etc., satisfactory?	Do you consider motor, transmission, etc., efficient in service?	Did you ever own a former model of same make and was it satisfactory?	Owner's name All of Elgin, Ill.
FORD........	20	Two years	$780	Very moderate	Nothing	Six hours	Yes	Yes	No	No	8500	5200	Not at all	Yes	Yes	First car owned No	DR. H. H. WEST
FORD........	22	Two years	800	$225 per year	$20	Two days	Yes	Yes	No	No	15,000	5000	Never	Yes	Yes	No	DR. G. J. SCHNEIDER
FORD........	18	Four years	800	Very moderate	About $20	One month	Yes. Have not tested guarantee.	Yes	No	No	7000	5000	None	Yes	Yes		DR. H. L. PRATT
FORD........	20	One year	600	Moderate	Nothing	Not at all.	Yes	Yes	No	No	3000	Satisfactory excepting Goodyear	Never	Yes, except original tires, which were Goodyear	Yes	*a*) Yes *b*) Yes	DR. E. A. MACCORNACK
FORD........	18	1907	500	$25 per month	Moderate	1 month in 3 years	Yes	Yes	No	No	Don't know	10,000	Twice	Yes	Yes	No	DR. E. H. ABBOTT
FORD........	22	1910	1000	Reasonable	$200 in in 2 years	1½ months	Yes	Yes	No	No	22,000	10,000	Five times	All but Carburetor	Yes	No	DR. H. J. GAHAGAN
STUDEBAKER..	20	1912	900	Reasonable	No repairs as yet.	Never	Have not yet asked for repairs.	No	No	Yes. Tires too small on front wheels	5000	2000	Never	All except Carburetor	Yes	Yes, and it was not satisfactory	DR. J. R. TOBIN
STUDEBAKER .	20	1912	800	Moderate	Moderate	Three weeks	Decidedly no	No	No	No	Over 3000	About 2000	Twice	Yes	Yes	*a*) Yes *b*) No	DR. H. G. G. SCHMIDT
STUDEBAKER .	30	1911	1100	$961.90	$384.35	Five months	Decidedly no	No	Yes	Yes	10,000	2000	Many	No. Carburetor fails in cold weather; magneto poor	No. Motor weak; frequent breaks many replacements	No	DR. J. A. S HOWELL
OVERLAND....	32	1911	1700	......	35.00	Two days	Yes	Yes	No	No	10,000	5500	Never	Yes	Yes	First car	DR. F. C. SCHURMEIER
OVERLAND....	45	1912	1650	Moderate	Moderate	Not at all	Yes	Very	No	No	6500	Front 6500 Rear 5200	None	Yes	Yes	*a*) Yes *b*) Yes	DR. W. S. BROWN
HUDSON......	20	3 years	1150 stripped	Moderate	None	Three weeks	Perfectly	Yes	No	No	19,000	4500 to 7000	Never	Very	Yes	First car	DR. O. L. PELTON
CHALMERS....	36	1 year	1900	Very moderate	None	Not at all	Yes	Yes	No	No	5500	4000	None	Yes	Yes	First car	DR. O. L. PELTON JR.
CADILLAC....	30	1910	1600	Reasonable	None	Never	Yes	Very	No	Fair	23,000	4000	Once	Yes	Very	First car	DR. L. J. HUGHES
FRANKLIN....	18	1909	1850	Don't know	$150.00	Two weeks	Have not received any consideration	See above	No	No	20,000	3000 to 4000	None	Yes	Yes	No	DR. JAMES CAMPBELL
REO	30	1912	Coupe 1600	Gas & oil only	None	Not at all	Yes	Yes, fine	No	No	3000	Satisfactory	Never	Yes	Yes	*a*) Yes *b*) Yes	DR. H. W. DUERINGER
MAXWELL....	22	1911	750	Economical	$1.50	Never	Yes	Yes	No	No	9000	5000 to 7000	Never	Carburetor might be better All else good	Yes	No	DR. Thos. E. MACAULEY
COLE........	32.5	Two years	1800	Very moderate	None	Never	Most decidedly yes	Yes	No	No	6500	4000	None	Very satisfactory	Yes	No	DR. C. A. SISSON
STODDARD DAYTON......	48	1911	2750	......	Nothing	Not at all	Yes	Yes	Yes	No	.....	......	Never	Yes	Yes	No	DR. J. G. TAPPER
OAKLAND.....	30—35	One year	1500	Slight	Do not know	One-half day	Yes	Yes	No	No	3500	4000	Never	Entirely so	Yes	*a*) Yes *b*) Yes	DR. W. C. BRIDGE
JACKSON.....	30	3 years	2000	$10 per month	No repairs	Only when cleaning	Yes	Yes	No	No	.....	Satisfactory	Never	Yes	Yes	No	DR. J. F. BELL
BUICK.......	30	1913	1285	Moderate	Nothing	Not at all	Yes	Yes	No	No	1000	Don't know	Never	Yes	Yes	No	DR. F. H. LANGHORST

method, even in adults, for I have found that the results after a year or so are far better than if the best classical operation had been done.

. One such case, that of a young man of twenty-five, came under my care and the man insisted that I circumcise him, as several of his friends had been by a great surgeon—at fifty dollars per. I finally yielded to his wish. He had a very small penis and a long foreskin. I used a local anesthetic, did the classical operation, and got a first-class result. About a year and a half later I saw this man again, and the virile organ, released from its long imprisonment, had grown to normal size.

So I wish to repeat: Do not mutilate your patients. Dilate their foreskins and, if they will not yield, slit them open, all of which requires no anesthetic at all.

W. A. Marner.

Miles, Ia.

PREVENTION OF QUININE-RASH. A BOOST FOR "THE CLINIC"

On the inside of the cover-page of your journal, I see this notice: "For every new subscriber you can send us, your own renewal will be advanced one year." Now, I am not going to take advantage of that announcement to put this excellent journal into the hands of a good doctor if he has not already become acquainted with it and so I refrain from taking any of the premiums you offer.

Your journal, Clinical Medicine, is the most *readable* and therefore the most instructive journal I know of. It combines the qualities of a first-class magazine with those of a medical journal of the same class. Many medical journals are so extremely statistical that they remind me of the agricultural bulletins, and one cannot help but think of balanced rations, and there comes up before him a vision of protein, carbohydrates, fats, solids, and so forth and so on.

In one of the numbers, some time ago, there was some discussion of the prevention of the urticaria produced by quinine. I will say that I have no trouble in preventing this annoying sequel when I know the idiosyncrasy exists, or in relieving the condition when it occurs. The bromide of potassium or of sodium, 15 or 20 grains given with each dose of quinine, will effectually keep off the complication of urticaria.

One French lady, whom at one time I had relieved with the bromides when she was covered with wheals five and six inches in diameter and raised one-eighth of an inch, asked me on another occasion when it became necessary to give her quinine whether she could not take some tea—"just regular store-tea"—with each dose, saying that that would prevent the rash. There being no objection, she took a cup of tea with each dose of quinine—and *there was no rash!* Here is a stimulant doing the same thing as a sedative. Is it the caffeine in the tea or has the tannin anything to do with it?

Just a word in regard to quinine. When "Socry sot the hen" and fell in the barrel he was standing on, he remarked, "The next time I gets a barrel I gets a box." I feel somewhat that way as to quinine. When I use quinine, I do *not* use it, but give cinchonidine, the sulphate, instead. That allied alkaloid does not fail to produce the rash in those susceptible, but that very disagreeable roaring in the head and the deafness produced by quinine does not occur when the cinchonidine is used. When this fails to get results, quinine will surely fail also.

E. B. Young.

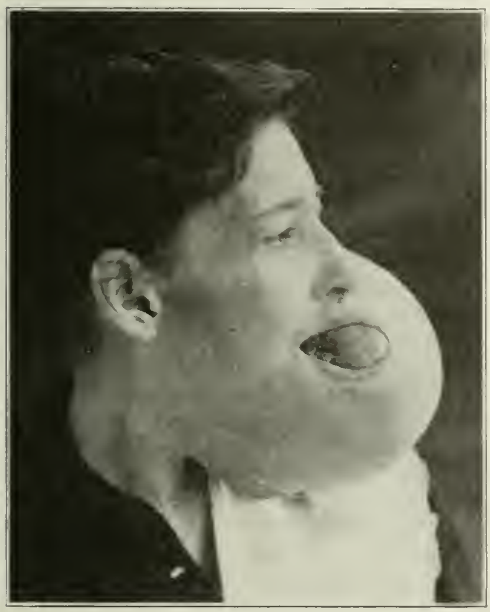
Baker, La.

WAS IT OSTEOSARCOMA?

Here is the case of a woman 41 years of age, whose family history is negative. She enjoyed perfect health until twenty-one years of age, at which time she had a bad tooth extracted by a dentist, but not before an abscess had formed. Soon after the extraction of the ulcerated tooth there began to form a small tumor on the inner side of the buccal cavity, which was very hard in character. This swelling was lanced by a physician, but the woman claims that there was no discharge from the tumor, which soon healed, but kept on growing. I could not find out which tooth was extracted, there being no teeth left, but it must have been the third molar. Nothing more was done to it, as she joined a religious sect and did not then believe in physicians. I was called by relatives only three weeks before she died.

At the time I was called I found the woman very much emaciated and in pain. Both lower extremities were edematous and would pit on pressure. There was marked anemia. Anorexia was present, and when she did eat she took only liquid diet and water. She had diarrhea most of the time. Her general health was bad, of course.

The tumor in the mouth I found to be of a fibrinous character, with three suppurating points, one on the inside and the other two on the outside. The pus issuing was of a deep-yellow color and had a very bad odor. (I had no microscopic examination made, so cannot say that there was no tuberculous conditions.) The tumor seemed to be encapsulated and the growth was from the periphery. The inferior maxillary bone was completely necrosed, as was part of the superior maxillary bone. All her teeth came out, one at a time. None of them were pulled.



Osteosarcoma of the jaw

The patient had five children and the youngest one was only five years old. All were perfectly healthy and there was no history of any tuberculous trouble on either side.

If anyone should desire any other information about this case, I shall only be too glad to answer inquiries. L. H. MARTIN.

Melbourne, Fla.

SURGICAL DISEASES OF THE SKIN—A SERIES OF CLINICAL LECTURES

We have just learned that Dr. L. Duncan Bulkley, of New York, is to give a course of clinical lectures and demonstrations at the New York Skin and Cancer Hospital on Second Avenue, corner of 19th Street, New York City, every Wednesday afternoon from April 2nd to May 7th.

Each lecture will be illustrated by cases, models, colored plates, photographs, etc. The course will be free to the medical profession. Those who can plan to do so certainly should attend this fine course of lectures.

ILLINOIS DOCTORS—DANGER!

Just as we are going to press we learn that in House Bill 210, now pending in the Illinois Legislature, there are provisions that may work harm to the medical profession of the state. This bill is addressed against misbranding of drugs, false and fraudulent statements in advertising medicine, and the abuse of narcotics. It seems possible that there is a "joker" in the sections on narcotics (Sections 9 and 10), which forbids the sale of cocaine, opium, morphine, codeine, heroin, etc., except upon a physician's prescription or order. There seems to be no distinct proviso in this bill that the physician may carry and dispense these remedies himself, without the writing of such prescription or order.

We have not yet had time to give the bill a careful study, but we suggest that every Illinois physician write his legislators to insist that the physician and veterinarian are distinctly authorized to carry and administer these drugs to their patients without unnecessary interference.

Better attend to this matter immediately.

THE NEW KANSAS PHARMACY BILL

Last month (see page 275) we referred to the new Kansas Pharmacy Bill, at that time pending in the State Legislature, calling attention to some of its defects and dangers.

This bill finally passed the state legislature, but we are happy to say that some of the most objectionable features were removed prior to its passage, among them the provision requiring every dispensing physician to write a prescription every time he administered a remedy.

Our friends in Kansas got busy at once, and the modification of the bill is undoubtedly due to the energy with which Kansas doctors protested against its passage as submitted. The physician can prevent the passage of obnoxious class legislation if he only knows what is going on. It's the "joker" that is dangerous.

Next month we shall print some correspondence with Kansas doctors regarding this bill. As passed, it requires inspection of the doctors' drug supply by the State Board of Pharmacy, to which no one will make serious objection, so long as there is no discrimination against the medical profession.

JUST AMONG FRIENDS

A DEPARTMENT OF GOOD MEDICINE AND GOOD CHEER FOR THE WAYFARING DOCTOR

Conducted by GEORGE F. BUTLER, A. M., M. D.

(*Continued from page 279, March issue.*)

ROME was the mistress of the world, governing by the force of those her legions whose standards stood for sovereignty everywhere. The dominion of her eagles reached to the ends of the earth! Rome represented might, power, armed rule! Her centurions were the executioners of her decrees throughout farthest lands. At the same time the philosophy and the art of Greece dominated the intellectual world—a heathen philosophy and art that had attained to all that men could reach without the aid of supernatural revelation. The Jews, conservators of an ancient culture, bound fast in the tradition of an exclusive religion, elect in sentiment, jealous of their ancestry as families and as a people, looking on all the world as barbarian! Into this world came the Dreamer of Nazareth—the carpenter's son—the child born in the manger—the Messiah.

And what of it?

Who remembers the glory of Rome? The student. Who recalls the philosophy or the marbles of Greece? The artist! Who is familiar with the history of Phœnicia, of Egypt, of Judea? The antiquarian! Who can tell us the story of Tyre, of Sidon, of Antioch, of Athens, of the philosophy of Plato, or of Socrates, of the mastery of Alexander or Xerxes, of the royal line of the Ptolemys, the loves of Antony, the rites of the priesthood at Delphi or at Delhi? Aye, only the curious, who embalm in their memories the corpse of the past.

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But the Dreamer of Nazareth? What of him? He has conquered human thought.

Half the mothers of the world tell the story of the nativity to their babes—his words are as letters of light burned upon human hearts. His sentiments of justice have been framed into universal laws in every civilized nation. His teachings have been expanded until they fill all literature, permeate all thought and speech. His word has become mightier than the sword; his example more powerful than the enactments of senates or the decrees of monarchs. For love of Him, martyrs innumerable have willingly laid down their lives, devotees have carried His message to the remotest corners of the earth. His example has been the beacon-light of the centuries, leading toward human freedom as well as toward spiritual exaltation. From the prophets who spoke when the world was young; from the apostles to Chrysostom, and Luther, and Calvin, and Wesley, and to all the hosts of His interpreters and followers; through all the centuries and all the limitations of time; through the rise and fall of empires, the winning and losing of thrones, the creation and destruction of dynasties, the contraction and spread of learning; through every change and circumstance and time and place—the example and teaching of the Dreamer of Judea goes out as a message to the race.

Men build fortunes in commerce, in the avenues of trade; they rear great structures, accumulate large reserves, fill granaries against the time of want!

This is as it should be!

But the dreamer of dreams has put the stamp of his imaginings upon the thought of the world, too.

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How regrettable it is that those who appear to be so fond of making themselves and, what is far worse, others around them, intensely miserable will not realize that nothing on earth is gained by fretting. Hard work viewed in the distance seems too much for one person to perform, but when brought face to face with it much of the difficulty disappears. When the mind is made up that a certain work shall be done, it begins to devise a way. As soon as the obstacles are removed, the thing itself becomes easy; then as the work progresses it becomes interesting, and when finished gives more real satisfaction than much more work of minor importance.

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Hard work must not be confounded with overwork; the latter is never commendable, for no one has a right so to exhaust his physical powers as to unfit him for mental recreation. Any person, who drudges from morning till night, then lies down like the weary beast of burden to sleep till morning calls to labor again, must have a mind as empty as a soap bubble and can not enjoy the benefit of his labor. Hard work must not be continued to exhaustion. The harder the labor, the less one should take of it for a day's work. One can put in two or three hours and not suffer; but double the time, and we have trespassed on the laws of health. Better occupy half the day in lighter employment. Take a good night's rest, and begin again the next morning with new interests. A tired man or woman very often is a disagreeable person and is not pleasant company.

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In stubborn cases of dysmenorrhea that fail to yield to any of the generally recognized rational methods of treatment a 4-percent cocaine solution, when applied to the mucous membrane of the nose, often will give relief.

In incontinence of urine dependent upon the relaxation of the urethral sphincter, massage frequently will be found to afford excellent results. Introduce into the urethra a medium-sized metallic female urethral sound and rapidly but gently stretch the urethra by a series of rotary movements. This should be done for a minute or two each day. A few weeks of this treatment many times will accomplish the desired results.

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One cause of disease may be described as the clogging of the avenues of the body by the wear and tear of the human machinery and the retention, mechanically or otherwise, of some material that should be cast off. The wearing out of the human machinery furnishes a fit medium for the growth of various inimical species of germ-life. The longer the waste is allowed to clog the various avenues of elimination, the more will these microbes multiply and thus produce a still further clogging of the system. The more the system is clogged, the more impure the blood current becomes; and the more the circulation is burdened, the greater the efforts put forth by the vital force to control the general welfare of the body, the more rapid will become the circulation and the higher the temperature. The process of cure is the opposite; namely, cleanse all the avenues, tone the organs into the performance of their various functions. As Abbott says, "clean out, clean up and keep clean, and then take up the slack." Of one thing there can be little doubt, and that is, that there are some forms of germs which produce disease, but not without preexisting favorable conditions for their propagation. Germs interfere only with those persons who are in the proper condition to receive them or to place themselves in proper relation to become infected. Keep well by keeping all the emunctories free of waste matter.

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Application of hot physiologic salt solution is one of the best treatments for ulcers of the leg. The salt solution has a physiologic effect on the tissues, exciting phagocytosis, and at, say, 58° C. is fatal to some bacteria, although not to spores. The ulcer is best irrigated with a hot solution for a quarter of an hour, after which a sterilized dressing (gauze, cotton, wool, and bandage) is to be applied. This is done daily until the ulcer cleans, then as often as necessary. Healing proceeds rapidly, making this especially suitable for persons who cannot spare the time to lie up in bed.

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Here are a few points I wish to give you this month regarding enemata. Given at night, they are useful in chronic constipation occurring in people occupied during the day; nervous individuals, however, who sleep badly will do better to take their injections in the early morning. Oil enemata are also effective in cases of peritoneal adhesions, which usually assert their presence by painful crises preceding the act of defecation. The following treatment should be employed two or three times inside a year: For the first two weeks an oil enema is given every day, then every second day for the following two weeks, then twice a week, and finally once a week.

Diarrhea in tuberculosis very often is due to a simple catarrh not of tuberculous origin, and this condition can be easily corrected by a regular use of enemata of a 3 : 1000 solution of salicylic acid.

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In cases of lithiasis use daily an enema composed of 1-2 pint of oil of sesame, 1 pint of hot water, 1 dram of pure castile soap, and 10 grains of carbonate of sodium to make an emulsion. The effect of this treatment often is remarkable. In weakly patients, these enemas should be given only every other day, since the systematic use of enemata exerts an action upon the circulation in arteriosclerosis too often ignored; for not infrequently it happens that this apparently simple measure brings about a crisis of grave prognosis. Medicated enemata must always be of but small bulk, say, about 2 ounces, with, for example, marshmallow or acacia for basis. Nutritive enemata should contain milk, yolk of egg, and a pinch of salt.

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Too much reading and too little thinking have the same effect upon a man's mind that too much eating and too little exercise has on his body. A learned fool is one who has learned everything and merely remembers it. Human knowledge is not very comprehensive, after all, for I have seen men who could calculate an eclipse to a dot, yet who couldn't harness a horse, to save their lives. The vanity of most men is so much more a match for their experience that they seldom learn anything by experience.

Men seldom are underrated. The mercury (speaking of mercury figuratively, of course) in a man finds its true level in the eyes of the world just as certainly as it does in the tube of the barometer.

To find an honest man nowadays is about as difficult as to trace out a cat's pedigree.

A man can't learn to be wise, any more than he can learn to be handsome.

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The majority of doctors find the treatment of chronic disease a stumbling block in the way of reputation and financial prosperity. The reason is, that they follow routine or some fad, instead of going about to work systematically, picking out and applying correct principles, making a definite plan and adhering to that persistently.

The three cardinal principles in the treatment of chronic diseases are rest, fasting, and appropriate medication. Of course, these principles must be applied with judgment. Rest, for instance, does not mean that a man should drop his work, go home, pull off his boots, climb into bed and remain on his back indefinitely. He may need rest in bed, or maybe in a hammock with cool breezes playing about. He may need rest from whisky, heavy dinners, mental excitement; rest for the overworked stomach, the paralyzed bowels; rest for the nervous heart and strained nerves. Rest for the tired brain may be secured in a variety of ways. Lying down perfectly still and for very short intervals is a very good way to secure rest for heart, the brain, and the nerves, and it will pull one together in an astonishing way, and as a routine practice it undoubtedly lengthens the span of life.

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In chronic diseases, nutrition is abnormal. Waste is not promptly and properly eliminated, it accumulates; the system does not reduce its products to their lowest terms, thus causing friction and making the work of elimination all the harder. It is a great mistake to add further to the difficulty by giving more and more food to patients in whom the process of nutrition stagnates. Food will not be transformed into nourishing red blood unless the system needs it and there is appetite for it. Fasting rests the heart, making its work easier; it rests the stomach and bowels, enabling them to store up secretory and peristaltic power; it lowers blood pressure, flushing the area of elimination; it increases the consumption of water, softens and relaxes the entire body, so that the work of cleaning up can proceed with greater rapidity and the least expenditure of vital force. Fasting may be absolute for one day or for several days; it may be partial, by abstaining from one meal or two meals or by taking a very light diet.

We should always avoid extremes and hobbies, make successful experience the sole judge of the value of our method and be prepared to discard them for others if unfavorable symptoms develop in any particular case.

In regard to the choice of drugs, eliminants—such as saline laxatives, sodoxylin, thymol and podophyllin—and alteratives are indicated in all chronic diseases; but the preparations used must be reliable. Poor quality drugs and a want of perseverance with remedies are responsible for many failures in treatment. You must have good medicine and make the patient understand that he will have to take them faithfully and for a long time in order to get well. The alternation of remedies is important in the treatment of chronic diseases. Any one drug, no matter how good a remedy it is, eventually will wear out. It is a good plan to alternate the eliminant and the alterative, the one increasing nutrition and, therefore, waste, the other increasing the system's ability to dispose of this waste. Hence, renovation and reconstruction go hand in hand.

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Oftentimes the distressing or excessive palpitation of the heart can be arrested by bending double, the head down and hands hanging so as to produce a temporary congestion of the upper portion of the body. In nearly every instance of nervous anemic palpitation, the heart immediately resumes its normal function. If arrested during its action, the effects are still more rapid. Do not forget, however, in palpitation of the heart to examine the urine and to see that proper elimination is going on.

AMONG the BOOKS

BURKHOLDER: "ANATOMY OF THE BRAIN"

The Anatomy of the Brain. A Manual for Students and Practitioners of Medicine. By J. F. Burkholder, M. D., professor of ophthalmology in the School of Medicine of Loyola University Chicago; with an introduction by Prof. Henry H. Donaldson. With 40 full-page plates (6 of them colored) from original drawings by the author. Chicago: G. P. Engelhard & Co. 1912.

The author of this book is an anatomist—specifically a nerve-anatomist. His years of arduous and useful work in this field are known and admired of all men. But the prime value of his anatomical work has been his recognition, through it all, of the functional significance of what he has demonstrated. This is what lifts the work of all great anatomists out of the commonplace of skilled mechanics; this is what breathes upon the dry bones and makes them live. Always the true anatomist carries in his imagination the living, organic, dynamic entity the structural mechanism of which he is analyzing, just as the historian does with the living historic period the records he is reconstructing. Always he realizes that, since structural forms and arrangements are the plastic adjustment of matter into lines of least resistance—the paths blazed through the organism by the dynamism of function—they constitute a scheme of which plenary function is the key.

Burkholder has done this in all his present work. The more anatomy he explores and demonstrates, the more physiology he deduces and justifies. Not that he actually refers—at least in this little book—to the subject of physiology at all. So far as we can see, there is not a word concerning the function of the brain. Nevertheless, it is there, as it is in the work of all great anatomists, in the arrangement and orientation of the subject-matter. No man could so arrange and orientate it, except around the functional keystone; and no man can intelligently study it without perceiving the invisible keystone around which it is grouped.

Undoubtedly Burkholder's is the most complete, as it is the clearest presentation of the anatomy of the brain that we have ever seen. Like all great works, it is simple and self-illuminating. The subject unfolds itself as it proceeds. The utilization of the sheep's brain (which is comparatively easy to obtain) in place of the human brain (which is exceedingly difficult to get) enhances its practical value as a laboratory manual and ought to make it appeal both to student and teacher as an exceptionaly happy solution of one of the most vexed problems of the dissection room. But its value does not stop with the medical student. It may well take its place among the classical working-library of the biologist and the nerve-specialist.

STIMSON: "FRACTURES AND DISLOCATIONS"

A Practical Treatise on Fractures and Dislocations. By Lewis A. Stimson, B. A., M. D., Seventh edition, revised and enlarged; with 459 illustrations and 39 plates in monotint. Philadelphia: Lea & Febiger. 1912. Price $5.00.

The rapidity with which successive editions of this work on fractures have followed each other within recent years bears the best possible witness to its popularity. We are glad to announce a new revised and enlarged edition.

ROBINSON: "SEX MORALITY"

Sex Morality, Past, Present, and Future. By William J. Robinson, M. D.; Leo Jacobi, M. D.; James P. Warbasse, M. D.; Edwin C. Walker; James F. Morton Jr., M. A.; B. S. Talmey, M. D.; and Maude Glasgow, M. D. New York: The Critic and Guide Company. 1912. Price $1.00.

He who has followed the contributions to current literature of the writers represented in the volume before us hardly need be told that their modes of dealing with the subject considered in its pages vary considerably; and they do, indeed, arrive at rather different conclusions. The majority of the essayists condemn the double standard of morality as it has come down to us through the centuries and advocate, for the best interests of humanity, not, indeed, equal liberty for women, but equal duties for men.

The book is of interest, not alone because of its subject-matter, but on account of the variety of the opinions expressed. Although undoubtedly too much is being printed nowadays on the subject of sex, we should not wish to miss any of the books put forth under the auspices of Dr. William J. Robinson. These books always are worth while, and always have something solid, something sensible to say and something that makes one think.

HOLLEN: "THE TAINT"

The Taint: Exposing the Dangers of Venereal Disease and How to Protect the Body Against Them. By Henry Bronson Hollen, Ph. G., M. D. Chicago: The Open-Eye Publishing Company. 1912. Price $1.00.

In the Report of the Vice Commission of Chicago, from which Dr. Hollen quotes, the statement is made that "the time is ripe for a united attempt to diminish venereal disease. To this end both sexes should be taught the personal dangers of the black plague." This little book undertakes to give this information, and it is presented in simple language that every one can understand, and in the most concise straight-to-the point way.

Dr. Hollen believes that instead of hiding the truth regarding the venereal diseases from his patients the physician should tell his patients all about them, explaining what they are, how they are contracted (both through sexual contact and innocently), the symptoms which they produce, the consequences that they entail both upon the sufferer and his or her offspring, and how they may be prevented.

In thus presenting "the truth and the whole truth" the author has discussed both the prostitute as a source of disease and the numerous accidental ways of contracting of extragenital syphilis. Two of the most interesting chapters are those concerned with methods of prophylaxis of venereal disease, both in the male and female. All the ordinary methods of prevention are described, including those employed in the United States Army and Navy—antiseptic douches, washes and ointments.

The little volume contains a large fund of valuable information, collected from many sources, and may well be placed in the hands of proper persons. Every physician should be familiar with it.

THE UROLOGIC AND CUTANEOUS REVIEW

There now lies on our desk a copy of *The Technical Supplement of The Urological and Cutaneous Review*, published by The Philmar Company, St. Louis. This is one of the finest pieces of journalistic work it has been our pleasure to examine for a long time. It consists entirely of careful reviews, mainly written by foreign authors, of certain problems of special interest to the urologist. For instance, there is a paper on "exclusion of the bladder," by Oppel, of St. Petersburg; one on "gonorrheal cases in the male treated without antiseptics," by Picker, of Budapest; one on "the progress of urethroscopy; the diagnosis and therapy of diseases of the urethra," by Wossidlo, of Berlin; one on "the inflammation of the seminal follicle," by Orlowski, of Berlin; one on "the pathogenic role of perinephritis of the hilus," by Peusson, of Bordeaux, besides many others too numerous to mention.

The illustrations in this *Technical Supplement* are superb. The frontispiece is a reproduction of Joannes Philip Burggrave—not "our" Burggraeve, but a German physician of similar name, who was born at Darmstadt, and who died in the year 1700. Also striking is the fine three-color plate opposite page 48 illustrating urethroscopic findings, while the plate in black and white opposite page 80, showing the leukocytes in mucus and blood, is also of very great value. There are numerous other illustrations, some of them full-page, and all distinctly adding to the interest and value of the book.

We are informed that this *Technical Supplement* is to be published quarterly, the price to be $1.00 per number, $3.00 per year. Any physician interested in this subject should secure it.

"PRACTICAL MEDICINE SERIES"

In the "Practical Medicine Series" (The Year Book Publishers, Chicago), for 1912, volumes III to X, are now before us, the current literature has been selected and abstracted in the same excellent and careful manner in which this useful work was done in the previous series, the editors of the departments of the different disciplines being the same as before, barring a few exceptions.

The "Practical Medicine Series" forms one of the few really good works open to the general practician desirous of keeping himself informed of the progress in medical science. The cost is comparatively slight, the subscription price being only $10.00 for the entire ten volumes of any annual series. However, the individual volumes may be secured at prices ranging from $1.25 to $1.50, so that physicians interested in particular subjects may buy only those volumes covering these subjects.

"INTERNATIONAL CLINICS"

International Clinics. A quarterly of illustrated clinical lectures and especially prepared original articles. By leading members of the medical profession throughout the world. Edited by Henry W. Cattell, A. M., M. D., and others. Philadelphia: The J. B. Lippincott Company. Series XII, volume IV, 1912. Price $2.00.

The most recent volume of this well-known and excellent series of clinical lectures contains a number of articles that are of great and timely interest and which illustrate the trend of medical endeavor and opinion. In the nature of things it is not practicable even to enumerate the subjects discussed, but the reviewer always takes pleasure in recommending these publications to physicians.

LE NOURISSON

Le Nourisson—Revue d'Hygiène et de Pathologie de la Première Enfance, is a new bimonthly French journal edited under the direction of Prof. A. B. Marfan, and published by J. B. Baillière et Fils, at Paris. This new review of infants' diseases made its first appearance in January. It contains original articles, reviews, clinical reports, bibliographies, and so forth, and promises to become an interesting contribution to pediatric literature. Not only Prof. Marfan, the editor in chief, but also his associate editors are well known, both in Europe and in this country, for their efficient work. We offer this new journal our cordial wishes. The subscription price is 14 francs for foreign countries.

BOOKS RECEIVED

Obstetrics. A textbook for the use of students and practitioners. By J. Whitridge Williams. Third enlarged and revised edition, with 16 plates and 668 illustrations in the text. New York and London: D. Appleton & Co. 1912. Price $6.00.

A Textbook of Gynecology. By William Sisson Gardner, M. D. With 138 illustrations. New York: D. Appleton & Co. 1912. Price $3.00.

Pathology and Treatment of Diseases of Women. By A. Martin and Ph. Jung. Only authorized English translation, written and edited by Henry Schmitz, M. D. With 187 illustrations, 25 of which are in colors. New York: The Rebman Company. 1912. Price $5.00.

Electricity in Gynecology. The practical uses of electricity in diseases of women. By May Cushman Rice, M. D. Second edition. Illustrated. Chicago: L. I. Laing & Co. 1912. Price $1.00.

Golden Rules of Pediatrics. (Medical Guide and Monograph Series.) Aphorisms, observations, and precepts on the science and art of pediatrics. Giving practical rules for diagnosis and prognosis, the essentials of infant feeding, and the principles of scientific treatment. By John Zahorsky, A. B., M. D.; with an Introduction by E. W. Saunders, M. D. St. Louis: The C. V. Mosby Company. 1911. Price $2.50.

Common Disorders and Diseases of Childhood. (Oxford Medical Publications.) By George Frederic Still, M. A., M. D. Second edition. New York: Oxford University Press. 1912. Price $5.50.

The Healthy Baby. The care and feeding of infants in sickness and in health. By Roger H. Dennett, M. D. New York: The MacMillan Company. 1912. Price $1.00.

The Care—Feeding of the Baby. A Handbook for mothers, midwives, and nurses. By Ferdinand Herb, M. D. 1907. The R. & S. Publishing Company, Superior, Wisconsin.

Children: Their Care and Management. By E. M. Brockbank, M. D., F. R. C. P. New York: Oxford University Press. 1912. Price $1.50.

Infant Feeding. By Clifford G. Grulee, A. M., M. D. Illustrated. Philadelphia and London: The W. B. Saunders Company. 1912. Price $3.00.

Elements of Physiological Psychology. A treatise of the activities and nature of the mind from the physical and experimental points of view. By George Trumbull Ladd, LL. D., and Robert Sessions Woodworth, Ph. D. Illustrated. New York: Charles Scribner's Sons. 1911. Price $4.00.

Care of the Insane, and Hospital Management. By Charles Whitney Page, M. D. Boston: W. M. Leonard, 1912. Price $1.00.

CONDENSED QUERIES ANSWERED

PLEASE NOTE

While the editors make replies to these queries as they are able, they are very far from wishing to monopolize the stage and would be pleased to hear from any reader who can furnish further and better information. Moreover, we would urge those seeking advice to report their results, whether good or bad. In all cases please give the number of the query when writing anything concerning it. Positively no attention paid to anonymous letters.

QUERIES

QUERY 5896.—"Acne Rosacea." E. C. B., Massachusetts, asks for an outline of the treatment of acne rosacea. In the first place, we must remember that acne rosacea may be due to one of a variety of conditions, including gastrointestinal disturbance, uterine congestion, chronic constipation, lithemia, anemia, hepatitis, plethora, tuberculosis, and that this largely must determine its management.

The milder forms of acne yield readily to regulated diet, that is, the exclusion of fats, spiced or highly stimulating foods, sweets, cheese, pastry, nuts, oatmeal, coffee, alcoholic beverages, and everything indigestible or liable to generate toxins; the thorough elimination—renal, intestinal and cutaneous; and the equalization of circulation. Saline laxatives constitute an essential element in the treatment. Diuretics may be indicated.

In gastric indigestion, the papain or pepsin compounds should be ordered. In the intestinal form, the bilein and pancreatin compound, one tablet an hour after meals; dilute nitrohydrochloric acid, 10 to 15 minims with food, may advantageously be added in hypochlorhydria.

In acute cases, soothing applications must be applied. A solution of epsom salt (1 ounce to the pint) may be used to sponge the parts, then a lotion of bismuth subnitrate, magnesium carbonate, and rose-water applied.

In the chronic form, more stimulating treatment is essential. Resorcin, 1 dram; ichthyol or isarol, 2 drams; cerate, 6 drams; made into an ointment, may be applied every three or four hours to mild desquamation. Then the strength of the ointment should be reduced at least one-fourth and application made but once a day.

Multiple scarification, electrolysis or thermocautery may be resorted to in order to destroy dilated blood-vessels remaining after congestion has been subdued. Large excrescenses may have to be excised or removed with galvanocautery.

It must be remembered that seborrhea may be a primary or a secondary condition. The disease is extremely obstinate, but we have found the majority of cases influenced by persistent treatment; not infrequently cure can be secured in three or four months.

In the true hyperemic form, little can be accomplished save by surgical procedure.

As you can readily understand, the prognosis in all cases will depend upon the character of the etiologic factor. Tobacco should be prohibited. We lay particular stress upon this point, because in at least two cases which refused to yield in the writer's practice, the condition disappeared as soon as the patient ceased smoking. A careful examination of the nares is essential. Not infrequently the relief of intranasal pressure causes a prompt disappearance of this disorder.

Ichthyol is of unquestionable service. Isarol proves equally efficient. Either may be applied in the form of a lotion or ointment at night and 1 or 2 minims be given three times daily with a little cinnamon-water or in a capsule. Ergot sometimes proves an effective remedy. Of late years we have used a sulphur-compound solution and find it even more satisfactory than Vleminckz's. It is advisable to dilute with 10 to 15 parts of water and then gradually increase the strength until irritation or exfoliation is produced; then reduce. The continuous uninterrupted use of ointments is not advisable. Where hard nodular lesions are present, mercury or ichthyol plaster proves of service.

In this connection, let us call your attention to the very excellent chapter on this subject which appears in Stelwagon's "Diseases of the Skin."

Query 5897.—"Cretinism." P. J. F., Pennsylvania, desires to give lecithin to a child fifteen years old who is a dwarf or a cretin. A general outline of treatment for this girl is requested.

You say that you are now treating a "child of fifteen years, who is a dwarf or a cretin." But a more distinct diagnosis is highly desirable; though, as a matter of fact, the same treatment applies in myxedema and cretinism.

For a thorough description of both conditions see Holt, Koplik, Graetzer-Sheffield or other modern work on pediatrics. The treatment outlined in "Everyday Diseases of Children" (Candler) is as effective as any. We reproduce the essential paragraphs herewith:

"The child is given a salt sponge-bath, and is kept in the open air as much as possible. Fresh thyroid glands are chopped up and given in sandwiches or *au natural* with a little salt. Nuclein is pushed for one month in 10-drop doses, morning and night; and arsenic iodide and iron iodide are given one hour after meals, day and day about, for a like period. Sanguiferrin, 1 dram, with meals. At the end of a month exhibit thyroid extract or iodothyrim three times a day; and calx iodata, gr. 1-3; phytolaccoid, gr. 1-6; and rumicoid, gr. 1-6; morning, noon and night for another month. Continue sanguiferrin with meals. Flush the intestine every third day; dilate the sphincter ani; circumcise; and, if lime salts are markedly lacking, give calcium lactophosphate, one granule (gr. 1-6) four times daily for ten days, resting ten days, then repeating. I cannot lay enough stress on the necessity for alternation of these remedies.

"It may be well to add that avenine relieves many of the nervous symptoms, and, where there is congestion of the sexual centers leading to continuous masturbation, this drug, together with gelsemine, gr. 1-250 every four hours, gives prompt relief. Give full doses —1-2 to 1 grain—of the avenine.

"Don't let any infant afflicted with myxedema or cretinism go untreated; even where the child is twelve years old and seemingly a 'hopeless idiot.' These measures and careful mental training sometimes will work what looks like miracles. Massaging with a bland oil is beneficial."

By the way, doctor, you should procure a copy of Dr. Candler's book. Physicians who have had occasion to consult it do not hesitate to state that their success in pediatrics began with its possession.

Query 5898.—Fatal Sloughing Following Forceps Delivery." G. T., Indiana, wishes to know whether he did the right thing in the case briefly outlined herewith. "A short, fat woman, forty-two years old, mother of six children, with a generally narrowed birth-canal, labors always slow and severe. Labor-pains began about 8 o'clock in the morning; I was called in mid-afternoon. I found the labor-pains good and regular. By midnight the os was dilated two or three inches. At this time pains entirely ceased. I gave quinine, but without effect, and only severe manipulation of the uterus would cause a pain. No fetal heart-beat could be detected, and no movements had been felt for three days. The child was in R. O. A. position; no descent into the pelvis. After waiting fourteen hours and the pains not setting in again, I called in another physician.

"Believing that we were dealing with a dead child, we gave an anesthetic. I applied the forceps and, by hard work, delivered a child which, much to our surprise, was living, and successfully resuscitated after fifteen- or twenty-minutes' work. The forceps was applied over the ears and ranged back over the occiput. However, the pressure from the instrument caused sloughing which resulted in death two weeks later. The left frontal bone was badly depressed. Now I wish to ask whether it would have been wiser to wait for spontaneous delivery or to have done cesarean section?"

Unfortunately, the information given is not as detailed as we could desire. For instance, your statement "the forceps was applied over the ears and ranged back over the occiput" is difficult to understand if the position, as you state, was R. O. A.; such placing of the forceps would seem more consistent with the R. O. P. position.

It is possible that symphysiotomy would have given the child a better chance, but the risk to the mother might have been greater. We are not advised as to the pelvic measurements; but certainly we should have deemed it advisable, had we been in attendance and and aware of the fact that the birth-canal was abnormally narrow, to resort to the use of the pelvimeter. The age of the woman must, of course, be considered; and, as the viability of the fetus was uncertain, there was justification in attempting to deliver naturally. If, on the other hand, the pelvimeter and general exploration of the pelvis revealed such contraction that the safe passage of a normally sized fetal head could not reasonably be expected, cesarean section or symphysiotomy should have been seriously considered. However, under the circumstances, you cannot be criticized for having omitted the use of the pelvimeter or for regarding forceps-delivery as practicable.

A very competent obstetrician to whom we referred your query remarked, "If his diagnosis of the position was correct, I should probably have taken the same course as he did."

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QUERY 5899.—"Septic Phlebitis." E. W. L., West Virginia, asks what we can tell him about treatment of septic phlebitis? This term "septic phlebitis" may be used to describe either the acute surgical or else the chronic form, in which latter the skin becomes ill nourished, glossy and eczematous, with resultant ulcers. The treatment of phlebitis naturally takes on sundry and quite diverse phases and the symptoms may be unmistakable or obscure, according to the situation of the affected vessel.

In the acute condition, fever is present and the inflamed area is exquisitely tender. The blood contained within the veins clots and edema results. Infected thrombi dislodged may be carried into distant parts and set up metastatic abscesses or a general pyemia.

In this form, especially in phlebitis of the extremities, the affected area must be put at rest, and cold creolinated epsom-salt compresses (creolin, 20 drops; epsom salt, 1 ounce; water, 1 quart) applied constantly. Colloidal-silver ointment or ichthyol and guaiacol in a lanolin and vaseline base should be inuncted. The patient should receive full doses of nuclein and calcium sulphide, and also aconitine, gr. 1-1000, and digitalin, gr. 1-64, every four hours, to equalize the circulation.

If at all possible, the septic focus from which the phlebitis originates should be treated. Chronic varicosities require surgical treatment always. An elastic or flannel bandage may secure temporary comfort, but the last stage is really worse than the first.

In varicose veins of the extremities, a thorough resection of the diseased veins or ligation and resection of the long saphenous vein at the saphenous opening is recommended. Mayo has devised an instrument, called a "vein-stripper," which permits of the subcutaneous removal of the greater part of the varicosed vessel. The vein is exposed through a transverse incision, cut, ligated, and threaded upon the instrument. It is then separated from the tissues and the collaterals are broken by forcing the stripper along the vein. Another incision is made over the end of the instrument, the distal portion of the vein ligated and the separated part removed. Such an operation should be performed only by a thoroughly competent surgeon, while the patient demands careful nursing and constant attention for at least two weeks thereafter.

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QUERY 5900.—"Foot Calluses." A. P., South Dakota, is desirous of removing callous formations on the soles, these indurations appearing every winter and making walking very painful. In this connection, he also writes: "CLINICAL MEDICINE is getting better every year, and I could not get along without it."

Callosities on the soles of the feet sometimes prove extremely rebellious to treatment. Salicylic acid in strong solution removes corneous epidermis, and we suggest, therefore, that you soak the feet for twenty or thirty minutes in a strong solution of magnesium sulphate (1 ounce to the quart), then apply, after removing as much of the calloused skin as possible, a dermal solvent consisting of alcohol, 3 1-2 drams; extract of cannabis indica, 10 grains; salicylic acid, 30 grains; collodion 1 1-2 drams. Make such application with a brush twice daily, soaking the feet every third night. In a very short time, we think, you will find the callosities disappearing.

Should the parts become painful, suspend treatment for a few days, then resume. Lactic acid has been used by the writer with success. A very small quantity only, however, should be applied at one time.

Be sure to wear properly fitting shoes, and, as soon as the callosity has been removed, dust into the sock, each morning upon rising, a little zinc stearate. Where the callous is very thick, the best results may be secured by painting on a solution of caustic potash. Several applications can be made within an hour and then the softened part removed by scraping or shaved away with a sharp knife.

Some writers recommend the continuous application of a 10- to 25-percent salicylic-acid rubber plaster. After several days this is removed and the foot soaked in a magnesium-sulphate or sodium-bicarbonate solution and the mass then rubbed away. The applications may then be repeated once or several times, according to the degree of thickening.

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QUERY 5901.—"Bunions." G. H., Illinois, desires to learn of some preparation which will "cure or at least relieve the misery caused by inflamed bunions."

Applications of ichthyol relieve pain, or, as you express it, "misery" from inflamed bunions. First of all apply to the painful area compresses wrung out of a hot solution of magnesium sulphate (1 ounce to the pint), or the foot may be soaked in a 1-ounce to the quart solution for fifteen minutes; then apply ichthyol on gauze. Relieve pressure by wearing a properly fitting shoe, or use an arch-support. If the bunion is on the toe, various mechanical contrivances may be used to draw the toe outward. A lead and opium wash has been used advantageously; a good formula being: solution of lead subacetate and tincture of opium, of each 1-2 ounce; well-water, 7 ounces. Apply freely on absorbent cotton or gauze. Frequently, however, operation is necessary.

If the inflammatory stage has passed, any good dermal solvent may be used. Apply night and morning for several days, then soak the foot in hot epsom-salt water, and finally pare or scrape away the thickened epidermis. Repeat the preparation as may be necessary. Benzoinated collodion makes an excellent protective. In some cases extreme pain may be relieved by the application of equal parts of ointment of belladonna and of iodine.

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Query 5902.—"Stomatitis Mycosa." A. H. V., Michigan, forwards a sample of milk from a woman who is nursing a 3-months-old baby. She is about twenty-four years old and in good health generally. This is her first child. The baby is under treatment for "sore mouth," the lips being "white as if burned with carbolic acid," while there were also similar patches on the inside of both cheeks and under-surface of the tongue. About a week ago the mother noticed that the baby did not like to take milk from her right breast (from which the sample was taken), but would nurse freely from the left. She also noticed that baby has not gained in weight during the past week, although previous to that time it made a steady gain. The baby is well nourished, but suffers considerably from constipation, for which the mother has been giving castoria quite freely.

The report of the pathologist upon the specimen of milk showed a very low percentage of fat. A little cream and barley-water might advantageously be given in addition to the breast-milk, but first of all the stomatitis evidently existing must be corrected. It is probable that there is an infected fissure in the right nipple. Examine carefully.

Mycotic stomatitis is due, as you know, to the presence of oidium albicans. The spots are grayish-white and are not confined to the gums, but frequently appear on the lips, tonsils, pharynx, and mucosa of the cheeks.

Croupous stomatitis is a rare condition. Invariably, here, the mother's breasts will be found painful on palpation, and a membranous patch may be discovered around one of the nipples. When only one nipple is diseased, the child may receive milk of the healthy breast, milk in the diseased breast being drawn out with a breast-pump and thrown away.

Make a very thorough examination of this woman, for, if a typical croupous or diphtheritic stomatitis develops, you may have serious trouble. We are inclined to think, however, as you do not mention any systemic disturbance in the child, that you have to deal with a distinct stomatitis mycosa.

Keep the nipple thoroughly clean with boric-acid solution, then apply thuja and glycerin, cleansing the child's mouth before and after nursing with warm boric-acid solution. A mentholated solution of the combined sulphocarbolates is also effective.

Give the infant 1-16 of a grain of blue mass and soda every fifteen minutes for four doses, adding irisoid, 1-6 grain, to every other dose. Repeat this every third day. Every two or three days give a few teaspoonfuls of a weak solution of a laxative saline three times daily. An excellent plan is to crush a tablet containing the Bulgarian bacillus and spread the powder over the affected area, where it will be gradually absorbed, the lactic-acid bacillus destroying the spores or any complicating bacteria.

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Query 5903.—"Dermatitis Exfoliativa." J. M. W., Ohio, describes a case of skin-disease occurring in a German, a man 80 years of age and weighing more than 200 pounds. This man had served in the German army for many years. He has good heart action, a good appetite, and is in general good health, except for this eruption, which came on five weeks ago, and now extends all over his trunk and limbs, the latter being swollen considerably. The eruption is of a scarlet or raw-flesh color; the skin is wilted and covered with fine pimples, in which, occasionally, a little pus forms. The epidermis peeled off, about ten days ago, and the swelling of his limbs somewhat abated, but has reappeared; the eruption is worse also and the skin is beginning to scale off again.

The itching and burning almost drive him crazy at times when the room is very warm. Treatment has proved ineffective; although the application of plain flour relieves him a little; so also does a lotion of lead acetate. He can get but little sleep, night or day.

We are inclined to think that this patient suffers from dermatitis exfoliativa, due to autotoxemia. An edematous condition is not infrequently noted, but the papules are rarely observed on the face. Itching usually is intense. Arsenic causes increased severity of all the symptoms. Brocq describes this condition as "lichenification," and says it shows a tendency to recur.

As you will readily understand, a careful examination of the individual and his secretions is essential; before we can prescribe intelligently, the underlying disorder must be recognized. Common sense, however, teaches that we must primarily "clean out and keep clean," not alone the entire digestive tract, but the body generally.

We suggest that you send to a good laboratory a specimen of urine (4 ounces from the entire 24-hour output from morning to morning, stating the total quantity voided), and also a blood-smear, together with more definite clinical data.

In the meantime order the right kind of food, exercise to the limit of tolerance, and secure general but thorough elimination by way of kidneys, intestines and skin.

The skin, first of all, must be cleansed with a warm solution of magnesium sulphate. Into a gallon of water put a double handful of wheat-bran, let this boil, strain, then add 4 ounces of magnesium sulphate. For each pint of this add 4 drops of creolin or carbolic acid. Sponge the body with this lotion, and then apply a good antiseptic oil, previously diluted with an equal part of olive oil. Repeat this treatment daily. The colon should be washed out every other day with an ample warm salt solution.

The patient should walk a half mile, more or less, before taking his meals; an hour after eating let him take another walk. If he is unable to do this, let him exercise before an open window or else have someone else exercise his limbs, this to be followed by massage if the patient is rather weak. Order a light nutritious diet, including eggs, fish, poultry, milk-products, fruit, vegetables, and whole-wheat bread and other cereals in digestible form. Lime and iron, with other "cell-salts," are needed imperatively. Vibration and light faradic treatments may be applied by those who know how. The therapeutic (high-power) lamp would be of service in most instances.

Medicinally, certain remedies are positively indicated at the outset; but here, if anywhere, medication (to be effective) must be so applied as to meet the pathologic conditions. These must of necessity vary in even a single case from time to time. However, calomel and irisoid will certainly be indicated to insure hepatic activity, free stools and increased elimination of waste, 1-3 of a grain each, hourly for four doses every third night, and a strong saline purge next morning being proper treatment. Nuclein, 10 drops (under the tongue or hypodermically) twice a day will prove an effective reconstructant; while xanthoxyloid, gr. 1-3; stillingoid, gr. 1-3; boldine, gr. 1-32; taken every three hours, will insure the elimination of the effete products of active cell reconstruction. Calx iodata in small but repeated doses will instantly suggest itself to the thinking therapeutist. We should give 1-6 grain on an empty stomach four times a day. Quassoid will make the patient eat all he should have, and, if digestion is at fault (as it usually is), papayotin will be called for. Finally, the sulphocarbolates of lime, zinc, and sodium—alone or in combination—will be needed "to effect," to prevent putrefaction of the intestinal contents and further absorption of toxic matter.

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QUERY 5904.—"Blushing." O. N., Illinois, wants a treatment for undue blushing. It is a difficult matter to prescribe for this, especially when we are unfamiliar with the peculiar emotional state present in the individual which causes inordinate reddening of the face.

Campbell, in a recent article in *The Practitioner* says: "The flush is the external sign of the inward working of the mind; it betrays that which one would be at great pains to conceal; the strongest effort in self-control is powerless to hide this glaring testimony to the inner thought. The fate of the inveterate blusher is peculiarly hard. He lives in constant dread of making an exhibition of himself, and many instances are reported of patients who are compelled to abandon their occupations on account of blushing."

The essential cause is an inherited temperament. The patients are sensitive, shy and self-conscious, and live in constant dread of displaying their weakness. This expectant attention increases their liability to it and is a potent factor in causation.

It has been epigrammatically stated that temperament is blood; hence, if we admit that psychasthenia is dependent upon temperament and temperament again largely determined by the composition of the blood, it is evident that the blood should primarily receive attention, and we should seek not only to equalize circulation, but to keep the blood itself in as nearly normal condition as is possible. Elimination (renal, dermal, and intestinal) is essential.

The patient should be instructed to exercise actively in the open air; the outdoor games are beneficial, not only because they increase oxidation of the blood, but because of their disciplinary effect and the self-confidence they impart.

Vasomotor instability of the facial arterioles also plays its part. It is not easy to control such local instability. Solanine and small doses of gelseminine hydrobromide might be advantageously given and would certainly prove preferable to the bromides, which have been recommended.

As the vasomotor centers in the face are affected by digestion, the patient should be instructed to masticate thoroughly, and if necessary should be given a digestant. The main essential, however, is to give the patient confidence in himself and change his outlook on life. Suggestion, under such circumstances, would naturally be of value.

In an abstract from a long article by Aronsohn, which appeared in *The Journal of the American Medical Association*, 1909, this statement appears: "The writer has found that persons addicted to excessive blushing are diffident, anxious to appear different from what they really are, and that the tendency to morbid blushing can be overcome by urging them to be more natural and true. He has always been able to cure it by moral suasion, supplemented by a little hypnotic suggestion to inspire the patient with courage and decision.

Hartenberg, in *La Presse Médical*, states that he has "always found an organic basis for excessive blushing, some physiologic peculiarity creating a predisposition to the emotional reflex. In six cases described in detail the following signs are found: the heart was exceptionally active, the beat powerful, but its rhythm was not accelerated; the carotid arteries were engorged and the head sweated easily; drops of moisture appeared on the brow and cheeks as the individual was speaking. Only one of these patients was a woman, the others were men between the ages of eighteen and thirty-two. The cardiac erethism, dilation and hypotension of the arteries suggest certain symptoms of exophthalmic goiter, and one of the patients had other symptoms of an incomplete form of this disease. The writer conquered the habit and morbid dread of blushing by the galvanic current, which he has found useful in exophthalmic goiter. The positive electrode was applied to fit around the front of the neck, the negative on the back, abdomen or elsewhere; a current of 50 milliamperes was applied for thirty minutes, every day at first, then every second day. This electric treatment was supplemented by two or three grains of a bromide daily, with some restriction of salt. Twenty to thirty electrical sittings were generally necessary. Psychotherapy does not remove the cause."

Literature on this subject is fairly extensive. The French, especially, seem to have made a study of the psychasthenic; yet, we are lead to believe that it takes a great deal to make a French woman change color!

As a matter of fact, to institute effective treatment, we must study the individual, seeking relief most carefully. It is well to remember always that flushing may be normal or abnormal. For instance, the diffidence of a young girl making her first appearance in society is naturally evidenced by reddening of the cheeks, and we should expect the healthy young woman in the presence of a desirable individual of the opposite sex to blush more or less. How else would it be possible for the poet to dilate upon the "rosebed cheeks of his inamorata."

Blushing in young women frequently disappears with marriage (which is deplorable), and the writer after many years' knocking around among his fellow-beings has come to believe that the young woman who does not blush under certain circumstances is so sophisticated that she cannot do so, i. e., having knowledge, she is no longer amenable to those psychic disturbances which occur in every normal and sexually mature female when in the presence of a desirable possible mate.

We would not seek to cure such blushing; and it is a question whether blushing in mature males, evidencing as it does a weak and unstable temperament in the majority of cases, should not be regarded as a natural warning, i. e., a danger signal which, displayed, leads us to refrain from entrusting him with great matters.

HARNESSING THE ELEMENTS

WHEN Ben Franklin proved possible the conduction of electricity, he discovered no new element, but simply located and focused a power that had existed since the world's inception. Ben—so to speak—threw a halter onto a creature that his fellows might harness it.

From Columbus down, it is the same old story, the halter before the harness.

Thus science smooths the way to many a goal. The chemist does his work thus, taking something that for ages has remained useless, or comparatively so, simply because, though possessing power, he has not known how to appropriate it, and, throwing on the harness, has made it useful.

No greater work can be done than that of the untiring chemist. In the drug world these chemists are constantly placing at our disposal elements, or combinations of elements, that physicians could get little benefit from, all "bridled and saddled with which we may ride to victory."

Creosote has been in the hands of physicians for many, many years; its great value as a medicinal agent recognized by all authorities, yet it could not be employed in sufficiently large dosage to produce results because the patient was unable to assimilate it, hence it is but little employed.

Chemists realized the situation and many efforts were made to get creosote into a soluble form, but only with partial success until the happy discovery was made that when chemically combined with calcium the elements were partially broken up and new chemical combinations made that put the creosote into a form in which it could be successfully employed.

The *new* chemicals formed by the union of calcium with creosote were found to be *calcium guaiacol* and *calcium creosol* together with the already known *calcium carbolate*.

Since the names of the three distinct chemical combinations that are harnessed together could not be applied to this new chemical substance, it was given the name *Calcreose*.

Calcreose, then, contains practically fifty percent of creosote, broken up as described above, into chemical combinations which make it valuable.

That creosote may be administered—through this new chemical combination—in large doses has been demonstrated in thousands of cases. *As high as 120 minims of creosote has been administered daily—through calcreose—with absolutely no unfavorable results.*

"Capsule creosote liberates creosote too abruptly upon delicate structures, and if the dose is at all commensurate with its full medicinal power, it irritates rather than medicates localized areas of the gastrointestinal tract. Other forms have not been carrying sufficient creosote to exhibit the potency of the substance in a given dose," writes one physician.

What have we, then, in this new product of the chemist's?

We have a happy chemical combination of creosote with calcium that liberates the creosote in an assimilable form, one in which creosote may be administered in sufficiently large doses without difficulty.

It has been found, further, that the chemical combination of creosote with calcium enhances the germicidal power of the chemical; in other words, that when creosote is chemically combined with calcium it not only makes the use of creosote possible, but the medicinal value is greatly enhanced by the combination and its range of usefulness increased.

New products for the treatment of *tuberculosis* are constantly rising in the east and just as regularly setting in the west. Creosote was here ahead of them all, its value recognized by all authorities years ago, and never disputed; yet all were unanimously agreed that it was impossible to give it in sufficient dosage to afford more than slight relief, until the combination with calcium was discovered.

The value of creosote being unquestioned, physicians who have become acquainted with Calcreose have grasped the opportunity to employ it, for, be it remembered, while creosote alone can only be given in small doses, when combined with calcium and broken up into the new chemicals, calcium guaiacol, calcium creosol and calcium carbolate, it can be given in sufficient quantity, not only to stop the growth of the germs, but, in many cases, to repair the damage already done.

Results from the use of Calcreose in *tuberculosis* are often said to be remarkable—it not only stops the progress of the disease, but it increases strength, appetite and weight.

In *bronchitis* and *pneumonia* it is largely employed and almost invariably with success.

Since the action upon the gastrointestinal tract is decidedly germicidal, there is a wide field of usefulness in that large class of cases due to the absorption of toxic products of bacterial growth. It is, therefore, indicated in *typhoid fever*, *diarrhea* and other cases requiring a *gastrointestinal antiseptic*, and clinical experience proves its value.

Most of the new products that are introduced to physicians are extremely high in price. *Calcreose is inexpensive.* A pound of Calcreose powder (costing $1.75) makes a gallon of solution by simply adding pure water.

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The American Journal of
CLINICAL
MEDICINE

Vol. 20 MAY, 1913 No. 5

Rationale of the Treatment of Fever

THREE methods of treating fever divide the favor of the American doctor today. The application of cold, the use of the coal-tar preparations, and the group of vasorelaxants represented by aconitine. Each of these possesses value and any one may be employed when the special conditions are present for which it in particular is best adapted.

Hyperpyrexia in itself constitutes a danger, apart from its cause. The human brain will not long endure with impunity a temperature above 105 degrees. When, as in sunstroke, scarlet-fever, measles, and septicemia, the heat rises to 110 degrees or higher, we must reduce this with the utmost speed, or the patient will die, his cerebral centers paralyzed. If cold can be had, that should be applied at once, and in such a manner as to be effective. Since the production of heat is stimulated by the sudden application of cold, this method has long since given way to that introduced by Ziemssen—which, briefly, is as follows:

The patient is placed in a tub containing water of about his own (fever) temperature, and then cold water is poured in slowly until the patient is cooled down to below 103° F., or to a safe point. If, however, the patient is too ill to be moved from bed to tub or if skilled attendants are not available for the bathing, we prefer a method introduced by McCall Anderson, a clinician of Glasgow: The bedding is arranged so that the patient's abdomen may be bared without exposing the rest of the body. Now a folded towel is dipped into a basin holding ice and water, wrung out so that it just will not drip, and applied to the patient's abdomen. Then it is at once covered with a dry, warm flannel, after which the blankets are at once replaced. In one minute the compress is whipped off and a fresh one applied. And this changing is repeated thirty times inside half an hour out of each successive two hours.

This latter method is effective, even in very high fevers, and far less disturbing to the patient. It may be kept up as long as the fever rises above 103 degrees; care must be taken that the cold water does not drip over the bed or the patient's clothing.

For a number of years we depended mainly upon the coal-tar antithermics—acetanilid, antipyrin, and acetphenetidin. These agents sedate the heat-centers and increase cutaneous radiation by dilating the capillaries of the skin, but they do not increase elimination. They are protoplasm poisons, and they form methemoglobin. In overdoses, they cause disquieting symptoms—cyanosis and alarming collapse, and even have been the cause of deaths. They certainly reduce high temperatures, but the curative result is not marked and their use is now limited to cases where the high temperature constitutes a temporary danger, which they meet powerfully and promptly.

Antipyrin being soluble in its own weight of water or of alcohol, it is most convenient for hypodermatic administration. The U. S. P. gives the dose at 4 grains. Acetanilid is the most powerful and the most likely to occasion cyanosis and collapse, and requires 179 parts water to effect solution. Being also cheap, it forms an ingredient of most of the headache-powders dispensed by druggists without prescriptions. The U. S. P. dose is 4 grains. Acetphenetidin is still less soluble, requiring 925 parts of water. It is the weakest and least dangerous of the group, and is growing in comparative favor. But the whole group of chemical antipyretics has lost its excessive popularity, and no longer is employed with the recklessness of a few years ago.

We now come to the group represented by aconitine, veratrine, and gelseminine. These reduce fever by dilating the cutaneous capillaries and the arteries, thus carrying blood to the eliminant apparatus, allaying cardiac excitement, and depressing the nervous excitability. By virtue of this, there is an increase in the excretions, thus carrying the toxins out of the body. These, therefore, are more than mere temporary allayers of high heat, since they remove the causes of fever by expelling the toxins that irritate the heart and the arteries, causing contraction of the latter and lashing the heart to fury.

It is now recognized that in febrile maladies the danger lies mainly in the toxemia. When the toxins produced by tissue metabolism are reinforced by those generated by the microorganisms and increased by the high temperature, then we have an accumulation whose disastrous influence over the vital functions is only limited by the rapidity with which these toxins are excreted from the body.

If any agent relaxes vascular tension, it permits more blood to flow to the eliminant organs and increases their excretions; besides, it dilates the cutaneous capillaries and allows a greater radiation of heat from the surface of the body. Ridding the body of its excess of toxins, the nerve-cells and those of the inflamed parts are relieved from the noxious influence exerted upon them by these circulating poisons. The comfort of the patient is enhanced by this means and his chances of recovery are materially increased.

The three alkaloids named possess in varying degrees the properties of vascular relaxants, analgesants, and stimulators of elimination, as well as of nervous sedatives.

Of the three named, gelseminine is most strongly analgesant and sedative to the nerve-centers, aconitine ranking next and possessing a local anesthetic power also, while veratrine most powerfully stimulates elimination. Gelseminine is less antipyretic, and is best suited in cases with little fever but severe headache and cerebral or spinal excitement. It should replace morphine in treating meningeal inflammations. Veratrine finds its field in eclampsia and when elimination is unusually defective.

Aconitine is the great antipyretic when it is desirable to restrain the temperature within safe bounds, lessening the tissue waste, and preventing the exhaustion that makes for a tedious and complicated convalescence. For, while fever may indeed be a salutary process and serve to restrain microbic operations, it nevertheless is apt to pass the limits of the useful and so do more harm than it does good. Men prate of nature doing the work, without considering that nature's ways are not always directed to the objects we deem desirable. The rains aid our crops, but destructive floods should be restrained. The destruction of tissue and the time demanded for repair are directly proportional to the height duration of the fever.

The control of temperature by the defervescent alkaloids is a different proposition from that of the use of cold or of a drug of the antipyrin group. The discovery that fever has its uses, and is not necessarily an enemy to be combated, cast a legitimate doubt upon the value of measures directed exclusively against the symptom, without regard to its causation or meaning. But there is nothing inconsistent here with the control of the temperature within proper limits, and especially when this is done by the elimination of the toxins that are now recognized as the principal source of peril.

Clinical observation has established a routine that is followed by many thousands of practicians: Aconitine is taken as the basis of the standard prescription, with a minimal dose of the water-soluble cardiotonic principle of digitalis, digitalein, to further the inhibitory action of aconitine and steady the heart, guarding against its coming weakness. If elimination is notably deficient or the fever shows the sthenic type, veratrine is added. But, if debility is manifested, the asthenic type predominating, strychnine arsenate is given with the basal couple. Arsenic is selected on account of its antiparasitic powers and its action in favoring the disintegration and absorption of the debris resulting from the disease.

We thus have two triad combinations, and the varying indications in a given case allow us to change from one to the other and back again at will, forming the most readily adaptable and flexible system of coping with fever ever devised.

The physician who has tried this method does not need to be advised of its value. There are still some who have not tried it—and for them this little dissertation is written.

MALINGERING AND HEALTH-INSURANCE

The success, in Britain, of Lloyd-George's health-insurance scheme has brought to the front, as was to be expected, the question of malingering. With the poor, and especially with the wives of working men, the temptation to secure a few weeks' rest at the expense of the club or the employer is great, indeed. Those who have not had the opportunity to observe this class closely can have little idea of just how much this means: A woman who had engaged this writer to attend her in an approaching confinement was seized with the pangs of parturition while she was scrubbing the stairs, and the baby was born then and there. Upon the writer's arrival, he found the woman in bed, the baby washed and dressed, through the kind assistance of a neighbor. When the probability was mentioned that the mother probably would be up and at work again the next day, she strongly demurred, for she was "entitled to nine days in bed" and purposed to have it; "that is the reason I am having the child!"

Every physician who has had the medical direction of sick-benefit societies has had this trouble to deal with—that, if he is lenient, the club is plundered and plunged into bankruptcy; while, when he is strict, those he refuses to put on the benefit list combine to overthrow him. Evenhanded justice generally appeals to the majority, if the physician really goes to the trouble of making an unquestionable diagnosis. If the applicant is shown his wrong so plainly that he can not but admit it, he is satisfied, provided he knows that no other member is more favored. But deference to influential members or personal friends is sure to bring its just retribution.

The scenes witnessed in the trial of suits for personal damage are not edifying or pleasant to him who holds the honor of his profession dear. Between the physician who tries to aid his patient to swindle a corporation and the "expert" who tries to aid the corporation in evading a just recompense for injury inflicted through the corporation's fault there may be little to choose; but anybody who has ever witnessed the despicable attempts of the corporation to shirk its liabilities, even stooping to assaults on the unfortunate victim's reputation, will in so far sympathize with the latter as to give him the benefit of any doubt that may be entertained.

Wherever there arises a question of malingering the decision should lie with medical witnesses who are in a position of absolute independence. The well-paid expert who is an employee of a company should not be heard. The struggling young practician who dares not refuse an influential patient should be replaced by one who has nothing at stake in the matter. The decay of public spirit and individual honesty demand that such matters be placed in the hands of government officials, public functionaries, who perhaps may be found less susceptible to improper influences and more judicial in their attitude to the questions and parties at issue than the private physician.

If you'll sing a song as you trudge along
You'll see that the singing will make you strong.
And the heavy load and the rugged road
And the sting and the stripe of the tortuous goad
Will soar with the note that you set afloat;
That the beam will change to a trifling mote;
That the world is bad when you are sad,
And bright and beautiful when glad.
That all you need is a little song—
If you sing the song as you trudge along!
—R. McClain Fields.

INTESTINAL DISINFECTION IN TREATING GOITER

England has discovered the intestinal-antiseptic theory, and in due time we may expect her to unearth the sulphocarbolates also. England is getting "warm."

Major McCarrison, of the Indian Medical Service, tells, in *The Lancet*, some interesting observations of the treatment of parenchymatous goiters. Thymol was the agent selected. Of 100 cases, 82 were kept under observation, to show final results; 68 patients were cured, 14 of the number were little or not at all improved. Naturally, the earlier cases proved most amenable; because deranged functions are less resistant than material lesions.

Neither fats, alcohol or vinegar should be allowed when giving thymol, as these are solvents for it. One striking result of the treatment is the loss of the subcutaneous fat. Thymol is ranked by Ratimoff fourth as a germicide, after mercuric chloride, silver nitrate, and iodine—the latter the standby in treating goiter. It is probable that this reputation is largely due to the germicidal power of iodine.

Eight patients were treated with the Bulgarian bacillus, with very striking results. Four were cured, two improved, though two showed no change after six weeks' treatment.

The thyroid gland began to shrink and the patients to lose weight about the tenth day.

The next step was the employment of vaccines prepared from bacteria found in the feces of the patients. One was a composite vaccine made from such organisms as grow on Musgrave's agar; the second was from the patient's own strain of coli; the third, from a spore-bearing organism found in the feces of a goitrous pony. The results from all were pronounced very remarkable. Equally striking results were then obtained from a vaccine derived from a staphylococcus derived from bone caries.

Under all these forms of treatment the patient grew thin and the skin became of a healthier tint.

The evidence points strongly to the intestinal tract as the home of the infective organism causing goiter.

Console yourself, dear man, and brother; whatever you may be sure of, be sure at least of this, that you are dreadfully like other people. Human nature has a much greater genius for sameness than for originality.—James Russell Lowell.

THE WATERLOO OF THE QUACK

Dr. Edward B. Rogers closes a study on the treatment of acne by bacterins, in *The Journal of the Medical Society of New Jersey* for December, by expressing his desire to stimulate interest and study in this line of treatment, not only of acne, but of all other germ-diseases. When this occurs, the author says, the physician will be given his proper recognition and the various quacks will meet their deserved Waterloo.

Although in some ways the pious wish expressed in this prediction might be echoed, I cannot feel quite so sanguine as Dr. Rogers, nor do I think that, for some reasons and at least for the sake of physicians themselves, the extinction of the species quack would be a good thing absolutely, because it is the trials and tribulations (and the quack is constantly a thorn in the flesh of the physician) that bring out and develop our fighting qualities and make us do our best.

If Dr. Rogers had meant the quack in the ranks of the "ethical" medical profession, I should echo his hope, but in both instances I should not agree with him. Do not imagine for one moment that the quack, especially the avowed quack, the advertising physician, is so blind to his interest, which is frankly expressed in dollars and cents, as to overlook any such good thing as the etiologic treatment of infectious diseases. It was by the quacks that "606" received its greatest notoriety; it's the quacks who use, though sometimes discredit, bacterins and sera. They are shrewd enough to be good students, in the majority of cases, and they study the important therapeutic literature more closely and to better purpose than do the majority of physicians.

However desirable it may be that the treatment of infectious diseases by bacterins and by serums be studied, and however desirable it is that the quack, in so far as he assumes the interests of the patient as subordinate to his own, meet his Waterloo, it is not in the field of medical endeavor that he can ever be brought to that pass. The quack can be removed to a greater extent only by the perfecting of the profession and by the education of the public.

NEWSPAPER MIRACLES

Don't believe all you read. Don't believe any of it, unless you have reason or proofs satisfactory to you and find that the asserted miracles are capable of assimilation with previously known and accepted fact. There are always innumerable people who are ready to accept anything at all with enthusiasm and wait indefinitely for the proofs.

In the days of Montgolfier the forbears of this class thought the realm of the air was conquered, but despite the strides since taken by the aeronauts the privacy of the sylphide queen is not seriously disturbed, and the life-expectancy of the birdman is not as yet alluring to the insurer of lives.

The newspaper looks for sensations, and the skilled work of the ordinary practician in obviating the effects of disease and prolonging life presents nothing attractive to him. The brilliant achievements of the surgeon and the astounding claims put forward by the experimentor are just in his line.

One learned editorial writer in the daily press has made some discoveries along this line. He has made the discovery that the surgeons are fastening broken bones by the insertion of nails! This is surely new—or was new once; but so long, long agone that the present writer scarcely would dare hazard a guess. The journalist might read up in the past history of medicine with advantage—indeed, he would almost surely resurrect some similar marvels that have been forgotten by us. This same newspaper scientist also finds that new jaws of silver may replace a useless inferior maxilla, so perfected by modern science that it aches when the bearer gets his feet wet!

Moral degenerates are made over by remodeling the brain and become "sane, clear-headed, and healthy." Perhaps—we note in a recent paper that one of the criminals thus reformed had inconsiderately suffered a relapse into crime. Stupid, backward children are made normal by that most wonderful man, the "modern surgeon"; who removes the obstructing stones from the bed of the life-stream. "If your child seems weak-minded," send for the surgeon. Beyond a doubt he will find some excuse, if not reason, for operating.

What a pity it would be to spoil such a pretty tale by asking for statistics as to the actual results of these interventions. Not that we wish to discourage the removal of adenoids and hyperplastic tonsils—by no manner of means—it is a duty, fully justified. But when Mr. Serviss, of newspaper fame, after alluding to skin-grafting as another new thing, or mentions the transplantation of a rabbit's cornea, he should have added, to avoid arousing false hopes, that as yet the result has ended invariably in failure. And while the doctor may have transplanted a leg from one dog to another, and with complete success, we should like to ask how long a time has elapsed, and whether the success has been sustained. Also, do not rashly conclude that this can be repeated with human subjects. The lizard may grow a new tail as often as the old one is snapped off, but we are not lizards.

This sounds grouchy, doesn't it! But, really, it is nothing of the sort. I do not envy the surgeons a mite of their success; and am only too glad to see them accomplish anything that may lessen the load of human wo. But it galls one to see them occupy the lime-light with their striking work, much of which is the crudest playing to the galleries, and very much mere experiment and turns out badly in the end.

Meanwhile the real hero is the man who goes on year after year doing the finest work of the profession and never gets a plaudit, is never heard of beyond his limited circle, and is generally unaware of his own splendid qualities and achievements. There is a hundred times more skill and knowledge demonstrated in taking a patient through a severe attack of typhoid fever than in doing the most delicate surgical operation. The problems of vitality, of metabolism, of nutrition, of sustention, of toxemias and elimination, of the powers of drugs and the patient's reaction with them, the control of patient, nurses, family, and officious friends through the trying crises mean infinitely more than the technic of any operation.

The surgeon's work is based on a complete knowledge of anatomy; that of the diagnostician upon anatomy, plus physiology and pathology; that of the physician on all these, plus therapeutics and psychology.

"My grandpa notes the world's worn cogs
And says, we're going to the dogs.
His granddad in his house of logs
Swore things were going to the dogs.
His dad amid the Flemish bogs
Vowed things were going to the dogs.
The cave man in his queer skin togs
Said things were going to the dogs.
But this is what I wish to state:
The dogs have had an awful wait."

AUTOINOCULATIONS IN PELVIC INFLAMMATIONS

Harold Chapple advocates autoinoculations in dealing with pelvic inflammations. These rarely are limited to a single organ, but the malady is apt to be more apparent in a particular one. Chapple's observations were made upon patients afflicted with bilateral salpingo-oophoritis with gonorrheal history, such as so frequently necessitate surgic intervention. The article cited appeared in *The Lancet*, January 18.

Recent research has confirmed the claim that inoculations of the actual offending organisms or their products give more beneficial results than are obtainable from stock-vaccines. The great difficulty lies in isolating the causative organisms. A remarkable variety of these is found on swabs from the vagina and cervix, and Chapple has not been able to divide the tract into two zones with distinct floras. Despite a clear history, the gonococcus is difficult to isolate or even to detect.

Increase the blood supply to an infected area, and we liberate more toxins into the general circulation. Raise the local temperature of the pelvis, and an autointoxication capable of sufficiently accurate control is effected. Regulate the doses so as to give the second when the negative phase of the first is over. and the positive phase has been entered definitely. By this we raise the patient's index of immunity to the offending organisms, and markedly increase her ability to cope with them and their products.

If we are dealing with an inflammatory mass the causal organism of which is dead, the increase of vascularity aids absorption. The congestion is easily produced by several electric lamps surrounding the pelvis. Do not cover the trunk and limbs. After a few days the heat may be raised to 180° F. for a half hour. The introduction of a Ferguson speculum facilitates the raising of the vaginal temperature. In one case, with the bath-temperature at 180°, the vaginal speculum at 135°, the posterior fornix was 101.5° and the mouth 98.8° F.

The examples quoted are not especially striking. The results are not as good as we used to get from rest in bed, depleting suppositories, systemic absorbents, intrauterine applications of thymol iodide, and intrauterine galvanization. The true importance of the newer methods lies in the possibility of still better results following their development.

Add to the old treatment saturation with the sulphides of calcium and of arsenic, and rarely will any of the new methods be required. Nevertheless there undoubtedly are cases of pelvic inflammation in which proper local and internal drug medication can be supplemented to the best advantage by the use of autogenous or stock vaccines. Bacteriotherapy and drug therapy are not opposed—they should be associated.

There is a perennial nobleness, and even sacredness, in work. Were a man ever so benighted, or forgetful of his calling, there is always hope in him who actually and earnestly works; in idleness alone is there perpetual despair.—Thomas Carlyle.

COCAINOMANIA

Public opinion in France has been excited by the discovery in Paris and Lyons of numerous cases of cocaine habituation, according to *Le Monde Médical*. While there are many opium users, these do not excite as much attention, because the victims indulge in the seclusion of their homes, while the cocainomaniac is easily recognized by his actions. If one wishes to poison himself at his leisure he should choose an agent that does not attract attention.

There are some who can not pass by any alkaloid that may afford them new sensation. To opium, morphine, ether, long used in this manner, they add heroin, invented expressly to cure morphinism. As soon as pantopone was made known, pantoponomania immediately was forthcoming.

Yet, France need not complain. In America the ravages of cocaine are much greater. Some of the states have passed laws seeking to lessen the evil.* But why cocaine?

Some cocainomaniacs are made such by the use of this alkaloid to relieve nasal affections. They are few, and if they use only the prescribed solutions, they are in no danger, those cures being too weak. In France cocaine is not employed in such affections, but here it is all too commonly applied in treating complicated catarrhs, irritant bronchial troubles, and so on. Crothers has pointed out that these persons experience only the sense of normal well-being when under the influence of this drug.

Another cause of cocainomania is demorphinization. It is not easy to say just why patients ridding themselves of one drug fall so readily into the habit of using another. Possibly they have grown to like the sensation of being empoisoned. They take on any new one, and love to consider themselves cured when they are not. This class is numerous.

Still more numerous are those who take on cocaine but do not stop their morphine. The accumulation of toxins is characteristic of the toxicomaniac. Most of these give themselves to cocaine, morphine, opium smoking, ether, chloral, and especially to alcohol. It is a common saying that cocaine leads to drink. There results a more complicated symptomatology, and troubles of extraordinary complexity.

Undoubtedly, having experienced from the first of these toxins sensations which they consider agreeable, they wish to double the dose and to vary the sensations. We must distinguish between agents that are depressing and those that excite, such as alcohol and cocaine. Such patients often alternate these or associate them; and they employ injections of morphine with cocaine in one solution. This is the custom of neuropaths more or less degenerated or in the way of degenerescence. They are subjects to whom all new sensations, even if disagreeable, are welcome, provided they are sensational or at least original. They are those of whom we no longer number the eccentricities, generally but slightly intelligent, very often debased. They are disequilibrates, in rapid march toward mental troubles, definitive, or at least grave.

Among them the first place is to be assigned to artists and litterateurs who place strangeness of life and ideas before talent. Adepts of schools without partisans, inventors of abracadabrant technics, they demand from the artificial excitations of toxics the thoughts they otherwise completely lack. Imitators of preceding geniuses in the less desirable sides of their lives, they judge themselves capable of writing the "Nights" or the "Fetes Galantes," because they have absorbed absinthe; to compose the "Flowers of Sin," under the pretext that they are, like their author, in search of ephemeral paradises, or they believe that in smoking formidable quantities of cigarettes they have the genius of the author of "Wisdom." For an instant of slightly productive exaltation they place themselves in line for the absolute intellectual void to which their incurable weakness would have conducted them without such aid.

Crothers has shown how much cocaine is used by criminals. This drug gives to them a certain assurance in the accomplishment of their nefarious work and arms them with force for the delicate instants passed before the judge. Yet, it must not be forgotten that cocaine indices very particular mental disorders, assuming the violent form and conducting its votaries to crime. Possibly there is an involuntary confusion between the reciprocal influence of the toxic and the reprehensible acts.

But there is evidently one etiologic factor that dominates the problem, in contagion. The idle, the neuropaths, the sick, all are of feeble will, incapable of resisting a bad example offered under attractive forms. We know that the habitués are zealous propagators of their own bad habits. We see the smokers of opium make great efforts to recruit new adorers for the smoke of the East. We know how alcoholics have the tendency to entangle those who have not yet sacrified to their own appetite. Morphinomaniacs are no exception. But opium and morphine induce a certain reserve.

Unhappily these is no such thing with cocaine. Complicated procedures entail a certain discretion which prevents making new victims. Taking a dose from a little vial is the acme of simplicity. There is no abnormal taste to which one must familiarize himself, as with chloral and ether. At any time, if the toxin is at hand, one many deliver himself to the intoxication without preparation or precaution and without attracting attention. What could one find better—or rather worse?

The dangers of cocaine are graver for society, if not for the individual, than those of other toxics; intoxication with it is easier, and the habit one of the most difficult, say the specialists, to cure.

STRIKES, AND TAX DISTRIBUTION

The medical students in Spain are out on a strike—to compel the government to pay the 'parish 'doctors. Hitherto these unfortunates have depended upon the municipal authorities for their pay, and if, as happened, the latter saw fit to withhold the cash there was no legal redress.

This is an example of a spirit that seems to be growing in prevalence—the tendency to "let George do it." With us, the wealthy malefactor shirks the taxes on his million-dollar residence, and the city finds it has not enough cash to go around; then all the items of expense it can shunt onto the county it cheerfully transfers. The county, in turn, passes all expenses it possibly can along to the state; and the state—it devises ways and means, or maybe excuses, to unload the burden upon the general government.

It all comes to the same thing in the end, of course, for somebody has to pay; still, while we believe devoutly in Emerson's law of compensation, it seems that, to get the individual balance, another world is a necessity—to even up for the imperfections in justice mundane.

"Whatever the weather may be," says he—
"Whatever the weather may be,
It's the songs ye sing, and the smiles ye wear,
That's a-makin' the sun shine everywhere;
An' the world of gloom is a world of glee,
Wid the bird in the bush, an' the bud in the tree,
An' the fruit on the stim o' the bough," says he,
"Whatever the weather may be," says he—
"Whatever the weather may be!"
James Whitcomb Riley.

NEEDED MEDICAL REFORMS

The daily press has taken up the suggestion made by Dr. John B. Murphy, as a member of the committee appointed last November by the American Clinical Surgical Association, to bring about needed reforms in medical legislation.

As is well known, Dr. Murphy suggested the reexamination of physicians every five years. He thinks that no man should be self-assumed surgeon, oculist, gynecologist or aurist, and gives it as his idea that men claiming special skill should be passed upon and certified to by some local or national organization. Dr. Murphy says the pubiic needs the best it can get in the way of medical service, and that the public must be protected, since it is necessarily uninformed and confiding.

We have no quarrel with Dr. Murphy's suggestion in a purely Pickwickian sense, but we are wondering just how it could be brought about that physicians will come up for examination every five years; and, if it is to be made mandatory upon physicians who have passed through a prolonged course of strict and severe training to be reexamined once in a lustrum, we are slightly c. 2. k. ("curious to know"), as B. L. T. of *The Chicago Tribune* puts it, whether reexamination will be demanded from Osteopaths, Chiropractics, Christian Scientists, advertising quacks, *et id omne genus*, or whether they will be placed in a relatively better or more favorable position than regular physicians.

The public is, indeed, uninformed and confiding. If it were not so, it would not pass by regularly accredited physicians who are honest enough to admit their limitations, and would not be bamboozled so readily and persistently in the face of the most varied disappointments and fleecings which they experience and suffer constantly.

Supposing this additional burden were to be laid upon physicians who, as it is, do not earn as much at present as mechanics (taking the average earnings of the physician to be from $800 to $1200 a year), what is the uninformed and confiding public willing to do in return for this increased assurance that its medical advisers keep up with the times and are duly certified?

The public has a fine sense of what is due it on the part of the medical profession, but the selfsame public shows a deplorable lack of consideration and appreciation of the medical profession. It persistently employs the exponents of wild and fanciful methods of "healing" (?) and pays them good money, but when the shekels have given out and nothing further can be done or the chances for recovery are lost, then the regular reexamined and certified physician is called in and is graciously permitted to do, for sweet charity's sake, what his irregular and dishonest competitors have not been able to do; or then the patient, in the care of the physician, loses his life, which might have been spared had the proper counsel been called at the beginning.

"I'm always in favor of givin' thanks—f'r annything. 'Tis a good habit to get into. 'Thank ye kindly' is betther than 'bad luck to ye,' annyhow."—Mr. Dooley.

THE STRAIGHT LINE

In the commercial world this is the day of straight lines—straight lines of efficiency in processes and straight lines of dealing with men and women. Elimination is the order of modern business. Straighten out the curves. Cut out all the useless, expensive, clumsy, roundabout methods, both of making products and of marketing them. Go direct to the desired point.

The same slogan may well be raised in practical medicine, especially in therapeutics. Eliminate. Straighten out the curves. Cut out all that is inert, and indirect, and questionable; all that is sheer habit and tradition, with no real value; all the *impedimenta*. Let the path between the remedy and the disease be a straight line.

A propos, a mathematical friend recently called my attention to the inadequacy of the definition of a straight line as "the shortest distance between two points." It is that; but it is more than that.

A straight line is the *only unique* line that can be drawn between two points. All curved lines have their counterpart and can be duplicated in the same plane. But the straight line is the only line that can fall in that plane between two points.

So, this straight-line method of doing things not only is the shortest way—it is the only unique way in which they can be done. Worth thinking about!

READ THIS—OF GREAT IMPORTANCE!

Every physician who receives this number of CLINICAL MEDICINE is urged to read with the utmost care the review of the legislative situation now facing the medical profession, as presented on page 430.

The matter discussed on that and on succeeding pages is of vital importance to every physician, and neglect to pay immediate attention to the emergencies presented may result in disastrous consequences to the entire fraternity of this country.

Do not put this number of the journal aside for some other day, but attend to the matter immediately. After you have read this article, it is "up to you" to take whatever action may be indicated in your own state. Do not leave this matter to someone else. *It concerns you.*

TOO MANY DOCTORS

Germany now raises the cry that the universities are turning out altogether too many doctors. Where are these young men to find their living? Why, very obviously, from the patients now under the care of the older men. The said older men do not relish the prospect and very naturally would like to close the doors and keep the newcomers out. Human nature is very uniform.

In the year 1909–'10 there were licensed 945 new doctors; in 1910–'11 the new licenses numbered 1047; and the net increase in

1912 was 692, against 386 the previous year. There is now in Germany one physician for every 1976 persons. In Berlin, one to 888. And still they come. The number of medical students at the schools is also increasing. This summer it rose to 13,380—a gain of about 1500 in a year.

Meanwhile we have been assured that imperial Germany is overrun with quacks, who take away much of the practice—and the fees—from the doctors, and find means of living even when not legally authorized to collect their fees.

In any other vocation we should hear much of the inexorable laws of supply and demand, and be told that the reason for the increase is that the modern German demands more attention from his doctor than did his progenitor who astonished Cæsar by swimming the icy rivers and exterminated the legions of Varus. But it seems wiser to hide the truth, lest more of the youth should feel encouraged to enter the medical profession and make the oldsters get busy and keep up with modern requirements.

How can any one man possibly do his whole duty by 1976 persons, in the light of modern science, medical and surgical.

Don't throw brickbats at your competitors—throw bouquets, and do so every time that you can honestly. It will pay you as well as please the other fellow.

DR. JAMES A. EGAN

It is with profound sorrow that we announce the death of Dr. James A. Egan, secretary of the Illinois State Board of Health, which occurred on March 30, from Bright's disease.

Dr. Egan held the secretaryship of the Illinois Board for sixteen years. During that period the requirements for practice in this state have been steadily advanced—indeed, under his guiding hand Illinois was one of the first to raise its educational standards, as it was one of the first, if not the very first, to provide for a practical system of reciprocity with other states.

Chicago has for many years been the most important medical educational center in the country. Numerous medical colleges have been established in this city—admittedly too many—and naturally some of them have been of a rather inferior grade.

The task of supervising these institutions fell upon the State Board of Health, and most heavily of course upon Dr. Egan himself. Because, we believe, of his constant and consistent effort to be fair to all concerned, and because also he refused to be dominated in this matter by a certain element of the profession, he was perhaps more viciously attacked than any other medical man who has ever held a state office in Illinois. All kinds of accusations were made against him—some openly, some covertly—but so far as we have been able to learn no evidence has ever been submitted to show that he ever used his office except to advance the interests of the people.

We knew Dr. Egan well, and respected him. Indeed, on the Monday morning following his death we received from him a letter that must have been indited only a few hours before he passed away. In this letter there was no hint of his illness, no suggestion of weakness, but there was a strong statement of his determination to oppose all efforts "inimical to the interests of the medical profession, or tending in any manner to jeopardize the lives and health of the people." We quote his exact words.

Dr. Egan is dead, and it is not our purpose to take the opportunity to criticise his critics, or to defend the work that he did. In the end, the work is the best testimony to the character of the man, and from this standard Dr. Egan's reputation will not suffer in days to come.

We have always believed in the Illinois Board of Health, which, working under a handicap such as has been placed upon no other similar organization, has kept straight ahead. Dr. George W. Webster, the president of the Board, and Dr. James A. Egan, its secretary, ably supported by a capable membership, have done strong conscientious work and have deserved the approval of the profession of Illinois. We know that the living will carry forward the work which the dead man loved and to which he devoted his life.

THE VENEREAL PERIL

Occasionally it happens that a ray of something akin to common sense illumines the pages of the lay journals when they discuss matters medical or hygienic, a notable instance of this occurring in *The Sacramento Bee*, when V. S. McClatchey takes up the question of the venereal peril.

That writer might be accused of exaggerating the ravages of the two plagues of syphilis and gonorrhea, were it not that he quotes statistics in support of his statements. "Every fifth person in New York City is or has been infected therewith; and there are 250,000 new cases each year. Eighty percent of males between 18 and 30 contract gonorrhea; 8 to 18 percent acquire syphilis. These conditions are growing worse. The underlying cause is ignorance.

"The subject is taboo, and most youths obtain their information from very doubtful sources or from sad experience. Syphilis is responsible for 90 percent of locomotor ataxia, for many stillborn and prematurely dying children, for apoplexy, paralysis, and sudden death, long after the original infection may have been forgotten. Gonorrhea, regarded by the youth as a joke, is known by physicians to be far worse than syphilis. It is the leading cause of race suicide from sterility, of 30 percent or more of blindness, of 70 to 90 percent of abdominal operative maladies in women. The germ may be carried dormant by a man for many years, awaking to malignant life in the innocent wife."

The principal means of venereal infection is prostitution. Practically all who study the question agree that it is impossible to extinguish this evil. Were we able to regulate it, much harm would be prevented, especially that which falls upon the innocent women. But there is ever present the devout extremist who objects to the state "licensing vice."

The claim is made, by those who seek a more or less plausible excuse for their derelictions, that men differ from women in requiring a periodic exercise of the sexual function. The boy who has never accustomed himself to its exercise has no need of it; the man who has formed the habit will be relieved naturally if he remains continent. That any man really requires periodic indulgence for his health has never been proved; that very many will thus indulge despite all argument is only too true. We who have to take men as they are, rather than as they might be, well know this. Men almost invariably contract venereal disease while indulging in illicit pleasure; women are, as a rule, innocent victims.

The remedies should be moral, says the author cited—we say, educational. Arouse in the lad a sense of honor, of proud purity, of pride of family or race that will keep him through the period most perilous. The rewards are inestimable.

All over the land there is a rising demand that the ripening youth of both sexes should receive instruction in these matters that would preserve them from falling ignorantly and innocently into these evils. Many excellent little books on these topics have appeared, among the best being those published by Dr. Edith B. Lowry. This gifted woman has the rare art of telling of the most delicate things in a clear and comprehensible manner, and yet without such brusqueness as would bring the blush to the cheek of innocence.

"Marriage should be restricted to the physically fit." Yes! so easy to say and so impossible to enforce. Men and women rush together as the streams run down hill. The impulse is deeper than law, than reason, than religion, or than any of the influences that govern men's actions.

The use of public drinking cups, of towels, and of pipes causes some infections, and these may be checked by timely and repeated cautioning. Infected persons should be segregated until cured. Liquor should be banished from brothels, as it renders the drinker incapable of protecting himself. The author follows Belfield in advocating the circumcision of all male children, the Jews being notable free from syphilis. Still, it is no protection against gonorrhea.

Prostitution is governed by the law of supply and demand so long as the sex relations are legally controlled—which, of course, they will be. It has never been suppressed by any religion or government. Europe now seeks only to regulate it so as to prevent as much of the evil as possible. Procurers, cadets, macquèreaux, graft, slavery, the continuance in the business of the girl who would reform had she the chance, and the ruinous low wages of store girls are matters that should be remedied. It is asserted that east-side girls in New York take to the street to win the means of educating their brothers—the European peasant valuing the sex only as it is capable of furthering male interests.

The registration of prostitutes, their concentration within certain specified limits, systematic examinations, confinement in lock-hospitals while infected, each has its advocates. To all these the objection is raised that they officially recognize and sanction the social vice. Meanwhile many thousands of innocent victims are yearly infected because of the good people's unwillingness to have the government appear to favor this terrible wrong.

The army issues (without saying much about it) to the soldier a device to protect him against infection. This is quite effective. The writer was asked by a manufacturing friend whether he would advise him to take up the manufacture and sale of this device—and he urged the gentleman not to touch it. In the present state of public opinion no one can afford to ignore the worthy although surely mistaken persons who oppose all means of controlling the ravages of these horrid diseases, except the one of moral restriction—which has been tried for ages and ever proven a dismal failure.

VASOMOTOR DISTURBANCES

The older clinicians laid the greatest stress upon the significance of the pulse, and looked upon it much as the modern internist does upon the urine, that is, as providing an index of the severity of the disease. The strength, volume, rapidity, regularity, and tension of the pulse furnish data of inestimable importance to him who has learned the lessons which it can convey. It provides inestimable information to the therapist, since the remedies that restore the circulation to its normal equilibrium at the same time help to remove the pathologic condition that occasioned the disequilibrium.

Treatment based upon a study of the pulse is not a mere treating of symptoms or a smothering of nature's warning, as where pain is lulled by opiates or sleep is coerced by hypnotics. We may not know exactly what the condition is, in fact we never do know this; but we do know that when the circulation is restored to normal functionation the peril is past.

While we have much yet to learn of the mode of action of disease causes and the mechanism by which their deleterious action is accomplished, modern research has thrown much light upon disease-processes. Thus, we know that in febrile disease, that is, in the acute infections, the danger is due to the degree of toxemia present. When the toxins set free by microorganisms circulate in the blood, they give rise to certain manifestations peculiar to disease. When the toxins accumulate to a certain point, the vitality is affected, and the attack is termed malignant. The peril is increased in any case if the patient's eliminative apparatus is defective, for in even a mild attack the toxins may be retained in the blood until malignancy is developed.

Here is the reason for the superior efficacy of the great sedatives of which aconitine is the type. By relaxing vascular tension, more blood is furnished the eliminants and more toxins are carried out of the body. In case of local plethora, a very curious condition obtains. As the bulk of the blood is not increased, it follows that, whenever any part has more than its share, the rest of the body has just that much too little. In other words, the vascular relaxation that permits an excess of blood in any part is exactly balanced by vascular spasm in other parts.

Hence it is that one set of practicians treat local inflammation by sedating the abnormal tension, and another, by stimulating the relaxation. In pneumonia, the former gave antimony or veratrum, the latter, quinine, digitalis, and strychnine, and each secured about equally favorable results; while the expectant, who did nothing, lost more patients than either.

It remained for Burggraeve to make the astounding discovery that still better results were had by combining sedatives and stimulants in the same prescription. I have endeavored to explain this on the hypothesis of a selective absorption by the cells. It seems no more difficult to conceive that a cell may take up the drug it requires to restore normal balance, than that each cell should take from the common supply the iron, lime, fat, phosphorus or other elements needful.

This theory is proffered to account for the fact, abundantly proved, of the superior efficacy of the combination of aconitine and digitalin in treating fevers. This forms the basis of our treatment of fevers. But sometimes the need for relaxation and elimination is more pronounced, and then to the basic duad we add veratrine. On the other hand, "behind sthenia, asthenia always lurks," and we see, or "sense," the coming weakness of heart, lung or brain. Then we reenforce the digitalin by adding strychnine, preferably the arsenate. We thus have two triad combinations, aconitine and digitalin in each, with veratrine for the sthenic, strychnine for the asthenic condition.

The doses are made exceedingly small, the effects of these four defervescent alkaloids being so quickly manifested that the small amounts may be repeated every fifteen minutes until we get exactly the degree of effect we desire. After this, the effect may be sustained by less frequent doses, or suffered to subside, as the case demands.

Quite frequently we are compelled to change from one of the triads to the other, and perhaps back again, as the condition vacillates between asthenia and the need of more elimination. We thus have in our hands the most apt, the most flexible, the most speedy, the most powerful, and the safest weapons ever presented to the medical profession for the treatment of fevers.

The choice of the arsenate among the salts of strychnine is forced upon us alike by experience and by the results of modern observations. The germicidal powers of arsenic in various forms has been demonstrated in several germ-diseases due to animal parasites. This application unquestionably will be extended. Thus, arsenic possesses a peculiar influence in causing fatty degeneration, and this is apt to be exerted upon the crude, newly formed debris of disease rather than upon healthy tissue. It means speedy convalescence and fewer sequels.

In some cases, there is little fever but unusual manifestations of cerebral disorder. In these, gelseminine has proved more beneficial than either aconitine or veratrine.

In the treatment of vasomotor disorders, the following routine may be suggested: (1) Empty the bowels, and disinfect them. (2) See that the eliminants are in full operation. (3) Regulate the circulation by the use of aconitine, to relax abnormal tension or spasm, and digitalin, to restore tension where paresis is observed; administered together every fifteen to sixty minutes, as needed. (4) Reenforce with veratrine if sthenia prevails or elimination demands increase; with strychnine arsenate, if debility supervenes or the heart shows signs of weakening. (5) Add such other treatment as circumstances may demand.

While this is the treatment for fever, the principle holds good in nonfebrile perturbations of vasomotor equilibrium, as in neuralgias, asthenias, emotional disturbances; and to obviate the effects of exposure to cold, wet or fatigue.

WATCH THE CLINICAL THERMOMETER

A writer in *The Chicago Daily News* calls attention to the lack of cleanliness characteristic of many physicians in handling the clinical thermometer. The danger of the public drinking-cup as a disease spreader is now pretty well understood, and this nuisance has almost been legislated out of existence. So, also, the public towel is doomed. For all that, there still are thousands of physicians who never think of sterilizing their clinical thermometers, although they would be horrified at the thought of undertaking a surgical operation unless their instruments were rendered absolutely aseptic, plenty of sterile dressings were supplied and the surgical field and their own hands carefully prepared by prolonged scrubbing and the aid of suitable germicides.

The doctor's thermometer visits pretty nearly every person in every community. On the same day it may go into the mouth of a child suffering from diphtheria, in that of a man down with typhoid fever, of a woman in the last stage of cancer, and possibly of some person suffering from chancre of the lip or mucous patches. The opportunities of this ubiquitous diagnostic aid for picking up germs are probably unequalled by any other instrument in the physician's outfit. Yet, unfortunately, it cannot be sterilized by boiling, while, on the other hand, the mere perfunctory rinsing in a little cold water, the solemn rite to which physicians quite commonly submit it, under the mistaken conception that they are keeping it "clean," is absolutely ineffective for the purpose of ridding it of microorganic life.

There should be a regular established routine for keeping the thermometer clean. The simplest plan, and sufficient under most circumstances, is to immerse it for two or three minutes in 70-percent alcohol (compare this journal, 1912, page 939), after which it may be wiped dry (although not necessary) with aseptic gauze—distinctly *not* with the physician's or anybody else's handkerchief.

If the patient is suffering from some severe infectious disease, the thermometer should first be immersed in some strongly germicidal solution, and then well wiped with the aseptic gauze. Various appropriate liquids suggest themselves, but I would suggest 70 percent alcohol as a basis and to this add 1-4-percent of iodine, which is claimed to destroy anthrax bacilli in one minute, besides killing all other pathogenic germs. Or, the alcohol might contain 1 percent, say, of formalin. Also, one might immerse the instrument in strong phenol and then rinse it in alcohol. Such antiseptics might be kept on hand.

The container holding the thermometer should be capable of being sterilized by boiling, and it should be boiled frequently enough to insure its being fairly aseptic inside; in case of doubt, an occasional bath in a germicidal solution as above mentioned will be advisable. In fact, a noncorrosible tube may be kept filled with 70-percent alcohol.

Of course, when the physician has in charge a prolonged illness requiring the repeated use of the thermometer, the family should be directed to procure one for the exclusive use of the patient. Nor should this be kept indefinitely. Thermometers, like other things, seem to "grow old," and after a time they lose in accuracy. If you have such an old one, check it up with a new one occasionally, one that has been carefully tested and is known to a certainty to be correct.

Finally, keep a generous supply of thermometers on hand and always carry two or three with you—several may break in a single day.

Leading Articles

Things That Are Not Fallacies

By J. H. BRISTOW, M. D., Portland, Oregon
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EDITORIAL NOTE.—This is supplementary to Dr. Bristow's article upon "Some Medical Fallacies," which appeared in CLINICAL MEDICINE *last month. Be sure to read that—and then read this.*

THE AMERICAN JOURNAL OF CLINICAL MEDICINE has done me the honor to present in its columns certain thoughts of mine regarding some of the fallacious things done from time to time by members of our profession. I have been soundly criticized; a thing that I expected and wished for. At all events, my readers will agree with me that it always is beneficial to us to raise questions of this nature and fight them out fairly to the end. There is no other answer for my critics.

I have said that I am not opposed to the efforts of any good and honest workers in the field of medicine; but, in order to show my good will in the matter and to take off some of the grouch displayed last month in "Fallacies," I now will offer some of my experiences in the treatment of the sick, and the conclusions arrived at.

In common with the rest of humanity, physicians have a tendency to swing from one extreme of thought to another. At present we are about to regain a rational footing regarding therapeutics, after a season of nihilism that has been very pronounced and widespread. In another place I have related the incident of the question being put to me by a fellow member of the local society, "Do you ever go to attend a pneumonia patient any more, and do you ever let anybody pay you for doing so?" The answer was: "I do. And I believe that I have seen fresh air, aconite, and digitalis save the lives of the victims. Getting pay for it, that is a different subject."

I have a proposition for those of our craft who profess having no faith in the power of drugs to influence the functions of the body or to modify the symptoms of a disease. Take that most common departure from the normal, constipation. All will agree to this simple affirmation: A sufficient dose of calomel or of castor oil will move the bowels. Then, I say, their action is identical. As a matter of fact, their action is similar only in that they move the bowels, for the character of the movement and the after-effects are different. That is to say, calomel and castor oil modify the functions of the excretory machine in an altogether different manner. If this be true, then it stands to reason that there are other drugs that will modify the functions of that part of the organism, but none of which, in all likelihood, will produce identical results, one with the other. Likewise, that the intestinal tract is not the only part of the organism that may be affected by drugs. Opium produces constipation. Already we have at hand some very ordinary drugs that produce an entirely opposite effect upon a given part of the organism. By way of parenthesis—reflect for a moment upon the tremendous difference in the manner of action between opium and castor oil.

To my mind, this carries the argument far enough. If these plain facts are admitted (and none can deny them), I, for one, will admit that there are means, could we but lay our hands upon them, to increase or to diminish any of the ordinary processes of life; and not only that, but these given changes of function may be, in detail, of different character. Now we should be in a position to consider the changes wrought, for example, by digitalis, by calcium sulphide or by aconitine.

We are taught that there are a number of acute diseases that will run a given course regardless of the treatment applied. I have little patience with such teaching. To be sure, there are a number of diseases that will run some sort of a course, according to the circumstances surrounding a given attack—a given patient; but, if there are drugs that will modify the ordinary phenomena of the body-functions, then there must be drugs that will modify these phenomena when they are laboring under the effects of a disease. To be even more assertive, I will affirm that in fatal afflictions, such as cancer or Bright's disease, the effects of the disease may be modified by treatment—by the use of drugs—so as materially to prolong life.

The argument presented in the foregoing really is elementary (doubtless I should apologize for presenting it), but it seems to me that it is impossible to deny the simple truths set forth.

So far as nature, with her mystery of life, is concerned, there is nothing abnormal. Birth and growth, disease, death and disintegration are but natural processes in the inscrutable manipulation of those elements and their changes which belong only to her. Disease to her is the manifestation of the rise and fall of a nation, perhaps of the pneumococcus. The host is of no more consequence than is the soil upon which our nation subsists. If this be true, then why can we not, within bounds, modify the phenomena called disease, for in doing so we only are setting in motion certain forces or processes of nature, the power for so doing having been kindly placed in our hands. In like manner, we plant seed in the earth, that we may set in motion certain favors, or forces, of nature, which in due time will permit us to reap.

It was not intended that we should die of disease. In the words of that good old hackney: "Disease is the result of our transgression against the laws of health." It must be true that there are those things placed to hand which, by proper use, will eradicate disease and permit us to approach the disintegration of our bodies in the way nature intended—through old age. The perfection of serums and vaccines, and those medicinal remedies known to us or that shall be revealed, rightly used to supplement the hygiene of the nation, the community and the individual, will finally, and through the profession of medicine, so prolong the span of life and mitigate the sorrow of suffering that the blessing conferred will be second only to that given by Him who walked upon the waters and bade the winds be still.

Acute colitis is a disease of more than passing interest, because of its pathology, the mistakes that are made concerning it, and the ease with which it may be controlled by proper treatment.

The pathology of acute colitis is interesting. When the disease is fully developed, there is relaxation of the anal muscles to such an extent that inspection of a considerable portion of the rectal mucosa may be made during attempts at bowel movement. Were it possible to carry the inspection farther, it would be seen that disease of the mucosa extends upward along the bowel as far as the transverse colon, more or less; depending upon the severity of the attack and the length of time it has existed. Carried still farther up, inspection would reveal, beginning just above the diseased portion and extending several inches, a section of bowel in a state of tonic contraction, whereby there is formed above it a lake of infectious feces, which, by its constant dribbling through the narrowed part, renews the infection existing below.

There is poor appetite, probably no vomiting after the first day, pale moist skin, small pupils, quick pulse, moderate temperature, obstinate and progressive prostration, and a most intractable *painful* and *bloody* diarrhea.

The prognosis is almost altogether a matter of treatment. It is favorable with good treatment, but with indifferent treatment death is liable to occur.

The mistake most often made is, to diagnose "summer-complaint" (there is no such disease) or gastroenteritis, and as a consequence applying treatment for a condition that does not exist; while the real pathology going forward in the bowel proceeds with its work practically unhindered by the treatment.

If the physician will remove the diaper of a child presenting the symptoms enumerated and inspect the anus during a bowel movement, he will arrive at an illuminating amount of information that at least will redound to the future comfort and safety of that particular patient.

You can not, successfully, make topical applications to the sigmoid flexure and rectum by way of the mouth. Therefore:

Give, in broken doses, a good course of calomel and follow it with a big dose of castor oil. At the time when the physic is active give a high and huge salt-water enema through a rectal tube or a large-sized catheter in order that it may penetrate the constricted portion of the bowel and wash away the debris collected above. Then, by means of a hard-rubber gun and a rectal tube, introduce, high, an ounce of olive oil containing one of the bland preparations of bismuth. Be sure that your bismuth is pure. Tenesmus will be relieved like magic. Repeat the local treatment as often as indicated. The condition of the pupil and skin call aloud for atropine. Give calomel, 1-10 grain, every night after the first dose; the sulphocarbolates three of four times daily. I prescribe the combined sulphocarbolates in the form of powder, with milk-sugar, for infants of any age.

The diet should be regulated with greatest care, for it is one of the essentials of success. Remember that milk has no place in the scheme of treatment, and that the practice of giving broths, especially chicken broth, is a bad one. Recovery is nearly always slow, and the fight must be kept up diligently until recovery is complete.

Make a diagnosis. We are told, time and time again, in the pages of this journal, to diagnose our patients' troubles before we undertake to treat them. Don't treat colitis as you would enteritis or gastroenteritis.

That was a long time for me to stick to a prosaic medical subject, so I must digress once more.

This article is not written to boost anybody's preparations, neither is it an advertisement for a drug house, nor either have I any interest in any drug house.

In discussing the treatment of colitis, I mentioned calomel. I should like to have anyone who is skeptical regarding the efficiency of pure drugs to go into the open market and buy just any little white tablet containing half a grain of calomel, and take it himself, half an hour before breakfast. Then, in a week, when you are feeling "just the same," get five 1-10-grain tablets of calomel with aromatics and take the half grain they contain just as you did the previous dose of this remedy. It will not hurt you any, in fact it will do you good—and, incidentally, it will widen your horizon concerning the activity of drugs. In any case, it will be no worse than the other therapeutic experiments you perpetrate upon your luckless patients day after day.

And now I want to mention three therapeutic crimes; to wit:

1. To give aconite without first knowing of its undoubted potency.
2. To give a preparation of digitalis about which there is the slightest shadow of doubt.
3. To wait, during an attack of pneumonia, for manifestations of heart weakness before beginning to give digitalis.

Many difficult problems are brought before us for our solution. One of them is the man who is or, what is worse, thinks he is impotent. Another, the married woman who has a good, clean husband and who herself is a person to command respect, who has the instinct of motherhood strong within her, who apparently is in perfect health, but, yet, who is sterile. Reflect for a moment upon the vast amount of writings and theories promulgated anent this subject. With no desire or intention to enter upon a scientific discussion of this matter, I merely wish to relate three cases that lately have come under my observation.

The first patient was a woman 28 years of age, married seven years. A careful investigation revealed nothing that would seem to account for her sterility. Her husband was healthy and gave a good history. He was not examined. The second woman, married eleven years, was 32 years old. Her case was like the preceding one in all respects. The third one, aged twenty-one years, had been married two years.

In considering the many theories regarding normal secretions, ovulation, and so on, without number, the thought occurred to me that perhaps the giving of an aphrodisiac pill for a period of time might increase the general functional activity of the organism, especially the pelvic organs, and thereby bring about the necessary conditions to cause pregnancy. Accordingly I prescribed remedies of that nature.

The first woman became pregnant during the third month after beginning the medication. I delivered her, by cesarean section, of a 10-pound boy. (No, not on account of those pills!) The second woman, under the same treatment, became pregnant in five months; but she was lost sight of. Pregnancy began, in the third woman, in about three months and terminated normally.

Not even three swallows make a summer, and so I do not know how much this may be worth. I wish we might hear more of this sort of thing, however, in place of the promiscuous tamponing that leads both ourselves and our patients into the delusion that something is being done. You know what I mean.

When the newborn child develops a mild ophthalmia—or, indeed, a child of any age, or any other person—do not take it for granted that just because the ophthalmia is mild it is not specific. In my service at the hospital we have repeatedly demonstrated the gonococcus in mild purulent discharges from the eye. As I write these lines, I have stopped long enough to demonstrate the germs of gonorrhea in a very mild discharge from the eyes of an infant of two months of age. This in private practice. One of the mild preparations of silver will give good results.

The point I wish to make, however, is, that another person can contract a most violent condition from this seemingly simple one. I'm sure that it can only be providential that more calamities of this sort do not occur. One should never fail to submit every discharge from the eye to a careful scrutiny with the microscope.

Our loss of faith in the ability of our remedies to modify the effects of disease has been a serious detriment to progress; still, perhaps, on the other hand, it may work for our good by establishing a rational conservatism. I believe that our slim confidence in medicinal remedies was caused by the extreme empiricism of our ancestors, followed by our pronouncement that we must know exactly what we are doing before we do anything. There is a loss of faith, though, that is working untold harm, not only to ourselves, but more especially to the public.

I here refer to the diminished confidence of the public in the medical profession. An explanation of this matter would be much involved; indeed, it is difficult to understand, for our work was never so good, and never has the profession been honored by so many brilliant minds as at the present. If it be true that we do not enjoy the full confidence of the public, then a return or an increase of regard for us depends entirely upon ourselves. I wish to make one suggestion.

Let us always explain to our patient or to his friends the diseases and their remedies in plain English terms that the layman can easily understand. They have a right to know all they are able to comprehend, and we should give it them in language that is intelligible, in place of making ourselves obscure and at times a laughing-stock by the use of long and senseless words.

There recently appeared a sentence in Clinical Medicine which I am sure the average layman would not comprehend. It said: "Acute epidemic cerebrospinal meningitis may be differentiated from acute anterior poliomyelitis by finding the diplococcus intracellularis meningitidis of Weichselbaum within the polymorphonuclear leukocytes in the sediment of the cerebrospinal fluid by lumbar puncture"! No, he wouldn't. He would think of a tin-shop or of the king of the Cannibal Islands asking a blessing. See whether you can say it yourself and not look on the paper. You see very well, Mr. Editor, that I myself could not get it right "on the typewriter."

Lately I called a good friend of mine in consultation, in order that he might assist me in clearing up an obscure abdominal condition. His statement to the patient ran something like this: "You may have tabes mesenterica, or a pathological condition with malignant tendencies, or merely a cystic ovary with adhesions and its attendant tendency to hydroperitoneum." He meant well enough, to be sure, but the patient did not seem exactly to catch the drift of his remarks, with the result that after he was gone I had to put in all the time I had left explaining what the good doctor meant, in place of laying before her the propriety of exploratory section. She has not been back, and I'll be durned if I should be, either. Not if I had to have "all them things," I shouldn't.

It is not difficult, if one will but cultivate the faculty, to state facts concerning the disease and its remedies in terms plain enough to satisfy the patient, set up a feeling of confidence all around, and remove a moiety of the medieval superstition which still besets the mind of the public. The average layman still clings to the idea that there are mysteries going on in his insides that are removed, often, by some equally mysterious drug that somebody sent away for or that some doctor knew about when no one else did. A practical effort in bringing the public down to date in these matters will help in finally restoring us to that place in the world's confidence where of right we belong.

Let us see for a moment whether we have not changed greatly in a few years. There used to be an institution known as the family doctor. Such a man was my father as he dwells in the memories of my childhood. But our day is one of such extreme specialization that half of the time when a patient comes to visit us it is merely to ascertain just what specialty his case belongs to.

What used to be "our families" now have this one who treats their skins, the other who fixes their eyes, one who attends to their rectal troubles, and another who looks into their stomachs. The family doctor, with all the confidence that he inspired, is becoming but a memory. For my own confusion I must admit that our specialties are represented by men of rare talents and skill, and they practice medical ethics to the very letter. Indeed their behavior in the latter regard sets an example that all of us would do well to follow.

As for me, I am somewhat old-fashioned. Give me back the days of my father, when the family doctor was the man beloved. He might commit sins of omission, but never of commission. He was the soul of honor; his bond was his spoken word. He was the councilor who never led astray, who never earned a dishonest dollar, who never smirched the good name of a woman, who held in the paths of virtue the feet of those gentle ones who walked near him. He died reverenced by all who knew him, and he dwells sweetly in their recollection until all shall have joined him.

Sexual Neurasthenia

Its Causes, Symptoms, and Treatment

By WILLIAM J. ROBINSON, M. D., New York City

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EDITORIAL NOTE.—Dr. Robinson's papers on the sex problem are distinctly "different." They aim to go right to the heart of the matter, without equivocation or pretense. Yet they are clean, concise, practical—and intensely interesting. Whether you are inclined to agree with Dr. Robinson or not, you should read what he has to say.

SEXUAL neurasthenia is one of the most prevalent of diseases and the number of sexual neurasthenics is constantly increasing. Its manifestations are truly protean in character and, as will be seen, there is not a single organ in the body that, in the sexual neurasthenic, may not show pronounced symptoms of disease. And not only the patient's body, but his psyche, his spirit, is deeply affected.

Definitions often are unsatisfactory things, and it is not easy to give a brief yet all-embracing definition of sexual neurasthenia. I prefer to define it very simply: a condition of general bodily and nervous exhaustion resting on a sexual basis. After the symptomatology has been discussed, the picture of the disease will stand out clearly, and the reader will not be harassed by doubt as to what is meant by the term sexual neurasthenia. To us, the sexual neurasthenic is so familiar that often we can recognize him at a distance. We know him by the way he walks in from the waiting room to the office, by his greeting, by the way he begins to give his history.

The Etiology of Sexual Neurasthenia

The causes of sexual neurasthenia may briefly be stated to be as follows: First, abuse and disease of the sexual organs; second, our civilization; third, heredity.

Under the first rubric, we include in the order of their importance: masturbation, pollutions and spermatorrhea, coitus interruptus, continence, gonorrhea with its various complications, especially posterior urethritis and prostatitis, and last—and least—sexual excess.

If I do not include impotence as a cause of sexual neurasthenia, it is because impotence and neurasthenia are both, generally, the concomitant results of antecedent causes, and also because impotence often is the result of neurasthenia.

Second. By the term civilization I understand both, those agencies which exhaust and drain the nervous system and those which prematurely awaken and constantly stimulate and irritate the sexual instinct. The early school-age, the excessive studies, the frequently recurring examinations (these are particularly injurious), the long hours at factory or shop, the struggle for bread, the still worse nerve-wrecking struggle for a career, the constant striving after more and ever more money or after fame, our poetry and novels, our theaters and vaudeville shows, the paint, powder and suggestive dressing of our respectable women, the solicitations of our nonrespectable street-women, bad school companions and vicious acquaintances of both sexes—all these are factors which prepare a sexually neurasthenic soil.

As to heredity, I do not ascribe to it the same importance that other physicians do. I have expressed my opinion many times before, that the importance of heredity as a factor in disease has been greatly exaggerated, and that, in my opinion, heredity plays but a very subordinate part in sexual disorders. It may be admitted, however, that children of neurotic and otherwise tainted parents are more liable to fall victims to various sexual irregularities that may lead to sexual neurasthenia, and that, on the other hand, injuries which would have but little effect upon descendants of healthy stock may bring irreparable disaster to nature's unstable step-children.

Is any one of the causes mentioned in rubric one in itself sufficient to induce sexual neurasthenia? Is masturbation alone, for instance, sufficient to do it? If indulged in to great excess, it may of course, without the aid of any other factors, bring about sexual neurasthenia. But let us leave out the extreme excesses, the socalled furious masturbation.

Let us take the various moderate degrees. Why does A, who practiced masturbation pretty steadily, three or four times a week for several years, escape practically without any damage, finding upon attempting intercourse his powers unimpaired and his nervous system unaffected, while B, who practiced masturbation only once or twice a week for about two years, finds himself a confirmed sexual neurasthenic? It is, because A was born of healthy, untainted parents and lives an easy, open-air, practically care-free life; while B has inherited a nervous constitution, has always led an indoor life and has studied hard from childhood on, using up his last bit of reserve force in competitive examinations. Why does C make a joke of his chronic protracted gonorrhea, his only regret being that he cannot indulge sexually as often as he would like to, while D is thrown into the deepest distress, and the little, hardly visible morning-drop makes a gloomy hypochondriac of him? The same reason.

And so it is with all causes we have enumerated above. They may, in themselves, in exceptional cases, cause sexual neurasthenia, but they are much more likely to do so if they are operative in a man who has inherited a nervous constitution and who lives the high-pressure, unhygienic life of our modern civilization.

The Symptomatology of Sexual Neurasthenia

As indicated at the beginning of the chapter, the symptoms of sexual neurasthenia are exceedingly numerous and varied. We could start at the top of the head and go down to the soles of the feet, and we should find that every organ in between may be attacked and may show symptoms varying from being merely annoying to agonizing. But we will begin with the sexual and urinary symptoms, as they are more immediately and more frequently concerned.

Krafft-Ebing divides sexual neurasthenia into three stages. In the first stage, the genitourinary organs are locally affected, and we have here the various functional disturbances of coition and urination and pains in and around the genital organs. In the second stage, the neurosis has extended to the lumbar cord and the patient complains of various symptoms pointing to spinal irritation. In the third stage, we have a general neurasthenia.

We will not adhere to his division, because, although schematically very convenient, this sequence is but seldom observed in practice. The symptoms of these various stages generally are interwoven, while those of the so-called second or third stage may make their appearance before those of the first. We, therefore, shall follow a more practical method.

Sexual Symptoms

Disturbances of the sexual system form, of course, a prominent feature of sexual neurasthenia. The patient tells us he is impotent and that his organs have shrunk away. When we tell him to undress, we find in reality the penis very small, retracted, sometimes so completely "drawn in" as to be hardly visible, cold, livid, and very hard. This hardness is rather characteristic; the hardness is sometimes that of cartilage. The scrotum also is well contracted and retracted, so that sometimes it is difficult to feel the testicles. The testicles are either normal is size or, in extreme cases, especially where the neurasthenia is the result of excessive masturbation, considerably reduced. They are, generally, very sensitive to the touch, sometimes to such a degree that the gentle grasping of them between the fingers will cause the patient to turn deathly pale, his face will be covered with cold perspiration and he is ready to faint, sometimes even actually fainting.

The small size of the penis is partly real and partly psychic. That the small size of the penis, which we notice upon examining the patient, is partly due to psychic causes, is seen from the fact that it is generally only during the first examination that its shriveled condition is so apparent. It is the "shame" and nervousness before the physician. At subsequent examinations the larger size of the organ is quite noticeable. And this same thing occurs at any attempt at intercourse, especially with a strange woman. To the patient's extreme mortification, at the critical moment the penis, instead of getting erected, gets shrunken and shriveled and practically disappears.

In other cases, on the other hand, we find the external genitals greatly relaxed. The penis is rather large, but soft and flabby, while the scrotum and testicles hang low down; and there is generally a slight varicocele on the left side.

Pollutions are frequent, and generally atonic; in the further progress of the disease they become diurnal, and may be accompanied by spermatorrhea. Impotence is either absolute, the patient being unable to get any erection, or he has feeble, imperfect erections, which subside quickly. The ejaculation in the vast majority of cases is premaure, generally taking place even *ante intromissionem;* in a certain percentage, however, it is retarded, the patient being able to effect intromission, but the erection subsiding before ejaculation has taken place.

A peculiar symptom the patients complain of is a burning, scalding sensation during ejaculation. The pleasurable, voluptuous sensation which the normal man experiences during the passage of the semen is in them completely absent, and the burning, scalding feeling, combined with subsequent depression, renders the act of coitus a very unpleasant function. And, yet, they have an irritated, unpleasant feeling, what I should call a pseudo libido, which forces them to indulge again and again. Others, however, in whom the libido is very weak or completely extinguished may abstain for years from any sexual relations.

Masturbation, severe and uncontrollable, many times is complained of. It may seem strange that masturbation, which we gave as one of the causes of neurasthenia, should here be considered as one of the symptoms or results of it. Still, there is nothing incongruous in this. In many diseases, and in sexual disorders *par excellence*, a vicious circle generally is established, so that the original cause becomes but one link in the chain of symptoms.

Masturbation is one of the principal causes of sexual neurasthenia; but, after masturbation has succeeded in bringing about the neurasthenia, the patient's will is weakened and he may become a helpless slave to the habit. While at the beginning the patient could control himself more or less and the masturbatory act afforded him pleasure and satisfaction, he now indulges in it because he cannot help himself, because he seems to be impelled by a *force majeure* and in spite of the fact that the performance of it not only not gives him no pleasurable sensation, but, on the contrary, causes a burning, unpleasant feeling in the urethra and leaves him depressed and disgusted.

On some neurasthenics the effect of intercourse is very profound. It leaves them for a day, for several days, sometimes for several weeks even, completely exhausted, both mentally and physically. Their brain is fagged out, they can not concentrate upon anything, their legs are weak, they fatigue quickly on walking, and suffer from severe cardiac palpitations.

Besides the functional disturbances in the sexual act, numerous symptoms manifest themselves in the genital organs, which are very annoying to the patient and very trying to the physician. The skin of the penis and of the scrotum is hypersensitive and the patient often complains of various sticking or neuralgic pains. There is generally extreme sensitiveness to cold. Pains in the testicles are frequent, as well as in the prostate gland. Sometimes the pains are only shooting and last but a second, at other times they are very persistent, and may extend to the prostate gland, the kidneys, legs, and even feet. In some cases there is very severe itching about the genitals, the most careful examination failing to elicit any basis for this pruritus. Sometimes, instead of affecting the genitals, the itching is confined to the arms. A very disagreeable and resistant symptom is hyperidrosis and bromidrosis of and about the scrotum. The odor of the perspiration in some cases is extremely offensive.

The "hanging-drop" symptom is to some patients the most maddening of all. Patients who suffer neither from urethrorrhea nor from spermatorrhea (in these disorders the drop is present) will imagine that their meatus is wet and that there is a drop in there. Dozens of times they will examine the organ, only to find it perfectly dry; but, still, they will continue to be tortured by this apparently slight but to them very disagreeable symptom.

That the urethra, particularly near the meatus and in the prostatic portion, feels extremely sensitive, we have already seen in the chapters upon masturbation, pollutions, and others. We have also seen that, on the other hand, in the later stages of the disease the urethra may become almost completely anesthetic.

Urinary Symptoms

The act of urination is very much disturbed. The patients urinate very frequently, particularly in the day-time. They may have to get up nights, but that only in extreme cases. As a rule they sleep through the night very well; and this is one of the characteristic symptoms regarding the relative frequency of micturition in neurasthenics which distinguishes it from frequency of micturition in other disorders, such as hypertrophy of the prostate gland. The frequency of urination is sometimes very great. Some patients have to urinate every hour, some every ten or twenty minutes. There is a little dribbling of the urine after each act and the patient will not feel fully relieved. They always feel as if there were some urine in the bladder which they are unable to void.

While in many cases the urination is painless, in others there is associated with the frequency considerable dysuria and even strangury. Nervous retention of urine does occur, but is rare. The difficulty or inability to start the act of urination is another symptom worth while referring to. Some patients may have their bladder full of urine and still be unable to micturate in the presence of the physician. They must retire to a separate room or behind a screen, and only then are they able to do it. Some can start the act of urination only at the sound of running water.

The shiver to which we referred in the chapter on pollutions is here very prominent. It is either localized in a small portion, usually the center of the spine, or it takes place throughout the entire spine. Occasionally the entire body will participate in the shiver, so that the knees suddenly flex and the head shakes. Since I became familiar with this symptom, I have made it a point to inquire of each sexual neurasthenic as to its presence, and in the largest percentage of cases the answer would be in the affirmative. Patients who present this symptom do not have it constantly. It appears with some urinations; it is absent with others.

In trying to solve this point (why patients experienced it at some urinations and not at others), I made a microscopic examination of a large number of specimens of urine, and I have discovered the following peculiar fact: Whenever these patients experienced this shiver, the urine contained semen and spermatozoa; whenever the shiver was not experienced, the urine usually was free from spermatozoa. Hence, it is my opinion that the shiver occurs only when there is an ejaculation, be it even ever so slight. As mentioned above, I pay great attention to this symptom, and its disappearance is a sign of positive improvement in a patient's condition. Its reappearance is an indication that the patient is "going back."

The urine itself undergoes considerable changes. In the early stages the patient as a rule passes very large amounts of urine of a pale color and a very low specific gravity. It may be as low as 1002 and look exactly like water. Later on, however, the urine diminishes in amount and may even become less than normal, and is of a dark color and high specific gravity. It may arouse in the patient and in the doctor fears of Bright's disease; but a chemical and microscopical examination will settle the diagnosis. Phosphaturia is a very common symptom, the urine often being loaded with phosphates. Oxaluria also often is present, although not so frequently as is phosphaturia. The excessive amount of calcium-oxalate crystals and also of phosphates is partly responsible for the scalding sensation which the patient experiences during urination. Due to the constipation and the intestinal fermentation, indican usually is present in large amounts; sometimes to such a degree that, upon making the indican test, the urine turns actually black.

Of course the urine also presents the various appearances of underlying pathologic conditions: postgonorrheal shreds, the masturbator's shreds, the "cloud" of spermatorrhea, and the rest.

Pains and Aches

Pains and aches in the spine and in the back are among the most frequent—one might say the most frequent—symptoms of the neurasthenic. Usually it is not a pain, but just a constant dull ache in the small of the back or in the middle of the spine, which is so exasperating that many patients say they would gladly exchange it for an acute pain.

The patient feels like rubbing his back against a door-post or bedstead or any other hard object, and feels greatly relieved after a rough kneading or slapping or massaging of the back or the application of a counterirritant to the aching region. Sometimes the pain is limited to one side, in the kidney region, and may simulate renal colic so closely as to bring the patient near the operation-table.

Circulatory Symptoms

Among the symptoms on the part of the circulatory system, the most frequent is palpitation of the heart. The least excitement or muscular effort is prone to cause it. In the night-time, if the patient wakes with a start—which he often does—the heart will beat tumultuously. The pulse is frequent, often over 100 per minute, small, occasionally intermittent. There is a feeling of discomfort in the cardiac region; it is not a pain, but the patient feels like rubbing, pressing or supporting the precordium. Sometimes, though rarely, there is a real pain simulating angina pectoris. And all these symptoms, of course, without any heart lesion; although, again, of course, a sexual neurasthenic may also have heart disease—but that is another matter.

On account of the poor and irregular circulation, the patient's feet are often cold and clammy, so that he must sleep with his stockings on, even in fairly warm weather. His hands may also be cold and clammy and perspire readily. The blushing at the least provocation and the frequent congestion of the head also find their explanation in the disturbed circulation and innervation.

The respiratory tract is not affected. Some authors have described a dyspnea or asthma peculiar to sexual neurasthenics, but I have not come across any such instances in my practice. If the heart is subject to severe palpitation, then the patient is naturally apt to become short of breath, but this dyspnea is then merely a part of the cardiac symptoms.

Digestive Symptoms

The digestive disorders occupy a prominent place. The appetite may vary from bulimia, which is quite common, to complete anorexia. And it is worth noting that, in spite of his excessive appetite, the bulimic patient may emaciate almost as much as the patient without any appetite. For the assimilation is poor, and the patient's metabolism is very rapid. Symptoms of dyspepsia are seldom absent: coated tongue, heavy breath, heartburn (which may be extreme, the patient declaring that he feels as if he had a burning coal in his stomach), hyperacidity followed, afterwards, by hypoacidity, constipation, rarely diarrhea, belching of gas, borborygmi; occasionally there is some difficulty in swallowing.

The digestive disorders are important, for it is they that generally first send the patient to the physician. A patient has no hesitancy in consulting a physician about a digestive disorder, while he will wait for years—until his condition is unmistakable and intolerable—before he will seek advice for a sexual trouble.

The Special Senses

To the symptoms of the special senses, we will refer but very briefly. The eyes, as we mentioned already, are easily fatigued, and the patients frequently suffer from eyestrain. Muscæ volitantes, floating specks before the eyes, is not an infrequent symptom extremely annoying to the patient. Itself the result of the neurasthenia, it often helps to aggravate it. The patients are extremely sensitive to noise. The tooting of automobile-horns, the noise of vehicles, loud music, the chimes of church-bells, and the like, are a veritable torture to them. The sense of smell may be hyperacute; or, sometimes, there is a perversion of that sense—the patient all at once will experience the odor of iodoform, musk, or other odorous substance. The sense of taste is but very seldom affected, although it may be.

Physical and Mental Work

In the extreme stages of neurasthenia, the patient can do no work, either mental or physical. He cannot force himself to do any original mental work, it being an utter impossibility for him; and when he does force himself to do some routine mental or physical work, he gives out very quickly and has to rest or lie down.

In the earlier stages, he may be able to do very good and very intense work, but only by spurts. He cannot do anything steadily, calmly, placidly. He is not a plodder and he cannot work systematically. If he writes a book, he is very likely to write the last chapter first, then a chapter from the middle, then the preface, then he may throw away the whole thing and start on upon some altogether different kind of work. But in the end, when he fits the pieces together and fills up the gaps, he probably may find that he has accomplished more than the plodding systematic worker would have done. He will whip himself up, work without interruption sixteen or eighteen hours a day for several days in succession, and then his mind will become a blank and he will be unable to do any mental work whatever for several weeks.

I am speaking here of mental workers, because they form a large percentage of sexual neurasthenics and because, further, my practice is largely among the intelligent classes—writers, artists, and men and women of that order. It should be borne in mind that some of the world's greatest writers and poets were sexual neurasthenics; only, however, neurasthenics in the earlier stages. Extreme neurasthenics do not write, and what they do write is not worth reading.

Some reader might stop here and ask, "Isn't it possible that the long, rapid, hurried work exhausts the patient and is in itself responsible for many of the neurasthenic symptoms?" And I will answer, "It is." Cause and effect, I will emphasize once more, are closely interwoven in human pathology, and whatever the cause that urges the patient to consuming, long-houred labor, there can be no question that this labor itself will still further aggravate his original condition.

However, I do not believe that hard mental labor, within rational limits, will by itself cause sexual neurasthenia. There must be some additional favoring predisposing causes. I said, within rational limits. Of course, if a man works sixteen to eighteen hours a day steadily for many weeks and gets no fresh air, and on account of that he eats poorly, and then, moreover, on account of the cerebral congestion induced by his hard mental work he sleeps poorly, he may break down, develop general neurasthenia, and this, in its turn, will bring about sexual neurasthenia. But this is work beyond rational limits.

The Mood

The mood of the sexual neurasthenic is extremely variable. The least pleasant occurrence or expectation lifts him up to the skies, the least unpleasantness throws him into the abyss of despond. But most of the time he is afraid of something. If you ask him to analyze his fears, to tell you himself what exactly he is afraid of, he is unable to do so; but, still, he is afraid that something bad is going to happen to him. He is going to lose either his business or his position; or his rival is going to get ahead of him; or some misfortune is going to happen to a member of his family; or the house is going to be burglarized; or he is going to be arrested; and so without end. Sometimes the fear is vague and has no specific object—the patient is just depressed and afraid, and for this reason he avoids people in general.

If the neurasthenic is not yet far gone, then a misfortune, an attack, a shock or some great emergency may stir him to action, may awaken the rest of his dormant powers, and he may, for a time, surprise his friends by his unwonted strenuous activity. But, unless at the same time he is subjecting himself to proper treatment, he generally relapses into a condition of exhaustion that is worse than the condition he was in previously.

One of the forms the fear takes is the fear of disease, that is, the fear of getting sick. It is perhaps the fear of typhoid fever, of heart disease, of Bright's disease, or whatever it may be, but most generally it is the fear of locomotor ataxia or of general paresis. This is particularly the case with our semicultured who have read a lot of quack-literature or have heard from their friends with little knowledge that those diseases were the result of youthful indiscretions. How many times have we not heard the question, "Doctor, have I locomotor ataxia?" addressed to us by people with whom there was nothing the matter organically and who did not present a single ataxic symptom. They feel like newborn or as if a heavy load had been lifted from their brain when they are assured and when it is proved to them that their fear is utterly groundless.

Frequently the neurasthenic has hypochondriac ideas; still, he is not a true hypochondriac. A true hypochondriac complains of ills and diseases for which there is no foundation, of which he has not a trace. The neurasthenic generally has grounds for his complaints, only he exaggerates his troubles; he magnifies a mild symptom into a terrible one; a slight disorder becomes a very painful one to him. But, then, how can we know? Perhaps his sensitiveness is so increased that what seems to us insignificant does cause him severe pain. For we must bear in mind that the neurasthenic is generally hyperesthetic and his power of resistance is greatly lessened.

Phobias

The extreme cases of sexual neurasthenia may develop various phobias—fear of crossing the street, fear of being in a crowd, of being in a theater, of looking down from a great height, for example. I have seen several cases in which the last-named symptom was very pronounced.

One of my patients was a well-known chemist who did excellent work and who stood very high in the profession. Nobody ever suspected or ever will suspect that there was anything the matter with him; but, for all that, he was a sexual neurasthenic and was possessed of a horrible fear of being in a high place. He was a member of the Drug and Chemical Club, which has its clubhouse in the top story of a skyscraper in William street. And this gentleman would suffer agonies whenever he was invited by his partners or friends to sit down to dine near a window. His legs would shake and the time of the meal would seem to him interminable. When by himself, he would select a table as far away from a window as possible. Finally he gave up going to the clubroom at all. He is perfectly cured now, however, and not only is he not afraid to stand near a high window, but last summer he climbed the Alps and crossed many glaciers—and laughed at his former fears.

The phobias are on the border-line of psychoses; they form stepping-stones to them. And sexual neurasthenics do sometimes develop genuine psychoses. But here, as a rule, there is something else the matter—there generally is a hereditary taint. And after they develop a genuine psychosis they no longer belong to us. They belong to the domain of the psychiatrist.

Commercialism in Medicine

As Compared With Sound Business Methods

By R. A. WALKER, M. D., West Monterey, Pennsylvania

EDITORIAL NOTE.—Those who read the series of articles upon the work of the Redbank Physicians Protective Association, which appeared in these pages some months ago, should read this supplementary paper by one of its members. This association is doing great work and its efforts should be emulated in every community.

IN the course of human events, every now and again it becomes necessary for someone to defend honest business methods in the practice of medicine against the attacks of the numerous unjust accusations and unworthy insinuations made by charlatans and ignorant pretenders, who, by unfair means and false representations, attempt to poison the public mind against those who have been their benefactors in the past, and would be again but for their dishonest practices.

But, not only by this class are the methods adopted by the Redbank Physicians Protective Association condemned, but by some members of the medical profession who should be standing shoulder to shoulder with us in our warfare against the common enemy, those who would despoil us of our honestly earned stipend.

On this occasion, the task of dealing with this phase of the subject has been assigned to me, and I shall devote my time to pointing out to those members of the medical profession who take issue with us that they either do not understand the object and teachings of the R. P. P. A., or they deliberately are trying to belittle our efforts in the eyes of the public, and pose, in the lay mind, as the "holier than thou" class, who hold up their hands in horror at anything they may call commercialism, while, nevertheless, they are just as anxious to get all the fees as we (and never shed a tear over a case stolen from you and me, when a nice fee is in prospect).

The Purpose of the Organization

How reads the Foreword of the Redbank Physicians Protective Association? "An association the purpose of which is, the upholding of the high standing of the medical profession, its rights and privileges, its duties and its obligations, and the establishment of a higher degree of ethical harmony and justice." Could any bishop or cardinal preach a purer gospel than that?

The man, or the committee of men, who formulated that compilation of sentences not only had the love and best interest of the medical profession at heart but had also an abundance of the love of God and their fellow man besides. The article in the Constitution entitled "The declaration of rights," at which our enemies "mass their batteries," is Section 6, which reads:

"It shall be the rightful duty of every member of this Association to be lenient with the honest and deserving poor. But he shall also make it his rightful duty to be on the alert for, and defend himself against, the deadbeat, the dishonest rogue, the shyster, and the malingerer."

Do you find anything in that declaration that would cause a choking sensation on the part of any physician who attempted to swallow it whole? While we do not for one moment wish it understood that we advocate the doctrine of turning our profession into a sordid, ignoble, and remorseless money-making scheme, yet, "the laborer is worthy of his hire," and we, as laborers, come under that injunction.

It looks very fine on paper, and it sounds like heavenly music to hear those disciples of Aesculapius who were born with the proverbial "silver spoon in their mouths" prate about "clinging to the traditions of the fathers and cherishing the high ideals of doing good with no hope of remuneration, except that peace of conscience which comes from "deeds of mercy well bestowed." But those individuals know nothing about having the butcher, the baker, the gas-man, and the landlord at their heels hounding them for their monthly bills.

If *I* understand the object of this Association, and the aims of those learned gentlemen who in their wisdom inaugurated this movement, in which I from its early infancy have been honored with a membership and in my humble way have tried to foster and help it grow, it is this: That there is only one thing that is, and must forever remain, first in our minds, and that thing is the welfare of the medical profession of the country, with all its aims and objects; the one inseparable and indivisible desire to promote the art of healing, fostering the growth and diffusion of medical knowledge, safeguarding the material interests of its members, and the promotion of friendly intercourse among the members of this organization and the profession in general.

A Square Deal Asked

This is the simple gospel preached by the Redbank Physicians Protective Association, a social order aflame with desire for justice and throbbing with human pity. Yet, some cry: "Commercialism, commercialism. You are belittling the profession by applying such unkind epithets to your patrons as deadbeat, rogue, and so on, to men who beat you out of your bills; and you will lose the influence of your patrons by trying to use commercial means to collect your bills."

My dear fellow physician, verily, your eye is filled with the proverbial beam to such an extent that you think you see a mote in our eye, when we, by the "square deal" method of applying business methods to the practice of medicine, whereby we receive the fruit of our labor, to maintain our families, our self-respect, and our professional dignity, while you, unfortunately, do not seem to realize that the whole business fabric of the practice of medicine has been, and is, undergoing a change, in common with all other business affairs.

The gospel says, "They that preach the gospel shall live by the gospel." Does this apply to doctors as well as to other laborers? I think so. Does any other class of laboring people, when they ascertain that the firm he is working for is bankrupt or unable to meet its obligations, still keep on working week after week, and month after month, quietly, uncomplainingly? Nay, verily, "he flies the coop" at once, raises a howl, and tries by all legitimate means to collect his money. But how with the physician? Oh, that is different. If we apply the same business methods, we hear the cry of "commercialism" raised.

Now, we hear so much of this "rot" commercialism—what is it, anyhow? Let me enumerate some of the things comprising it.

Advertising, either publicly or privately, your wares or talents, securing trade by fair or unfair means, at the expense of your competitors in business; cutting prices; selling inferior goods on the recommendation that they are A No. 1; misrepresentation; false pretense; "drag-me-in methods;" hanging out wares in front of your place of business to catch the eye of the passer-by; placing long articles in the public press, extolling your mighty power to heal the sick; of your great mental efforts and wonderful expense for midnight oil while delving into the misty depths of the unexplored, seeking wisdom which, after making the sublime discovery, is now offered by them to the dear public at so much per; exaggeration, subtlety, boosting by fool friends, et cetera.

But we, as physicians, are conjured to stick to the traditions of the ancient fathers and content ourselves with a little six-by-ten sign containing the mere mention of our name thereon, with the M. D. following it. No newspaper ad for us! no exposure of our talents and ability! No, that is commercialism. Then, why not object to the medical-defense clause in the Pennsylvania state medical society constitution as commercialism? It is only defending us against the same kind of thieves, robbers, knaves, and blackmailers, except that the state protects by wholesale, while the petty robber of our society tries to rob us in daylight by retail, and dodges behind a magnanimous law to help him do it.

I dare say those who despise the methods of the R. P. P. A. in trying to meet this variety on their own grounds would, if pinched by the law in a case of malpractice, be among the first to avail themselves of the shelter afforded by *this* act of our *state* constitution.

Is the practice of medicine a legitimate business? Or is it simply an eleemosynary necessary evil, existing in every country, to be used at the beck and call of everyone needing our services; and we, the willing packhorses of all, working quietly, uncomplainingly for glory we never get, for thanks grudgingly given, and soon forgotten? Or, are we going to favor a make-up of sterner stuff, and run our business on business methods, taking care of ourselves, our families, and our creditors?

My friends, this is an age of "hustle." No one cares today "who your grandfather was or what he did." The question is: "Who are you; can you make good?" This is no age for moping over the graves of dead ethics and traditions of past centuries. New generations have arisen, new issues and customs are facing us. Are we progressives or are we reactionaries?

Am I standing in the presence of one member of the medical fraternity who is such a lover of his fellow man that he practices medicine for the cause of humanity alone? Nay, nay. In the dim and misty past such an individual may have lived, who so loved his fellows that he was willing to offer himself a living sacrifice for the amelioration of the ills of the race. But not in this age does that variety of the genus homo exist; except it might be among the fraternity of unlearned and unregistered socalled midwives who render their services free from love of curiosity more than the advancement of the cause of humanity.

Care for the Poor

While the soul revolts at the commercializing of distress, the refusal of the physician to attend the sick-bed of poverty because no fee is forthcoming is condemned, and justly so. But far be it from us ever to oppress God's poor and unfortunate in trying to squeeze the money coming to us out of their weary and careworn bodies, money they need for food and clothing worse than we. But, the professional beat, the man who believes it cheaper to move from the community than pay rent and doctor bills; the man who comes to you with words of honey on his lips, who has heard "afar off" of your great skill, of your wonderful medical and surgical attainments and wants to enrich you with his clientage, who lies awake nights to evolve schemes to "skin" you, he "laughs at your calamity" when, after the skinning process is most complete, you, in your innocence, suggest some tangible evidence of his gratitude.

Then we have the "boozer," he of the red nose, who always can dig up "cash in hand" for a quart of the "fruit of the still," but none for medicine for his sick wife and babies. You, as a great philanthropist and purveyor of charity, are expected to come boldly to his relief at times like that and show to the world what a sweet-scented angel you are.

Oh, ye of little faith, you objectors to our business methods, get down off your slender perch of false dignity. The world knows you are only men, after all. Do not preach the doctrine of high ideals when it costs you nothing. Come out in your true colors, and say, with the members of the R. P. P. A.: "We believe you are right, eternally right, in coming to your own by telling each other who will or will not pay you for your services."

Look at this matter as a business man of the year 1912, instead of as the ultra idealist, spinning fine-haired ethereal logic. Give us more of the tangible things of life that lead to the possession of the "long green," and less of your hot-air logic. Self-denial, self-control, lofty thinking, right living is all very commendable, and can be practiced by every physician. But in the meantime collect your bills, so that your nocturnal slumbers may not be broken by the howls of the wolf at your door.

The tax that the deadbeat places upon us, as citizens as well as professional men, is greater than that imposed by all branches of government. It is greater than the loss from honorable thieves, robbers and burglars, who at least do something to earn a living, and do not sneak behind the law for protection. We think we are doing this class a kindness to teach them the simple rules of honesty.

Do any of you here today have any idea what amount is reported delinquent every month in our little book? Take the time to count it up, and you will find it foots up in the neighborhood of $40,000 each month. A tidy sum, which, if divided among us, would enable us to take a vacation, at the expense of the despised "deadbeat."

The Physician's Business Struggle

The real physician of today is "having the time of his life" to maintain his place in the eyes of the general public as a man of scientific attainments and as belonging to an educated profession, amidst the legion of religious faith-cures, Osteopathists, Eddyism, esoteric teaching, pathies, and farcical and meaningless combinations of letters to designate the kind of healer and befog the minds of the public, and by their various means amuse the patient while nature effects the cure.

Ignorant good-for-nothings, who are too lazy to earn a livelihood at street sweeping or shoe mending, can hang out a sign as a doctor; if not an M. D., then simply change the letters to D. M., and, forsooth, he is a doctor of magnetics, or drop the M., and supply the next letter, and you are an N. D., this by interpretation meaning naturopathic doctor—which is so easy that any paranoiac is competent for a degree.

Yes, this is a glorious country. All hail the medical freedom, freedom not only to fleece the public but the regular, hard-working, honest physician as well, and call it business.

To me the finest type of manhood is the honest, fair, upright physician, virile by virtue of his environment, self-reliant and resourceful by reason of necessity. Exalting common sense above fine-spun theories. Dealing with all conditions with breadth of grasp and vision that proves him to be the ideal of his profession. His patients are known as his friends, and not as commodities for gain. Who so base as to impute to him commercialism, who so evil-eyed as to begrudge him the hard-earned fruits of his labor? Yet, at his best, he is misunderstood, mistreated, and, like the once popular but now discredited "hown dawg," is constantly "kicked aroun' " by a certain unkind and ungrateful public, who, having profited by his knowledge, skill, self-sacrifice and self-denial, turn upon him "to rend him." And he, by the inexorable law, is supposed, when smote on one cheek, to turn the other.

Today the medical profession is struggling to establish a most potent agency for the prevention of disease, a national department of health. And how illogical and incongruous seem the elements that enter into the struggle, a great profession fighting to limit the sphere of its own activities, to destroy piece-meal its own business.

Against us, are arrayed the self-interest man, the nostrum vender, the advertising sure-cure man, cults, pathies, and the hordes of those who thrive on human credulity and fatten on human despair; while the great public, for whom the profession is making the good fight, is either not lifting a hand to help them, or they are arrayed on the side of the opposers.

The R. P. P. A., as an organization, has been sorely misrepresented and misunderstood; many times "stabbed in the house of its friends." But, amidst all the warfare against us, we are going on, and gaining in numbers and influence every day. In many ways we have gone far beyond the conception of its founders, have outgrown the suit of clothes provided for us at our christening, and I believe in some respects outgrown the limitations placed upon us by our laws, which might stand overhauling, especially in regard to the enlightening of the public as to our aims and purposes, so that they might understand that "we are the enemy of no honest man." As it is now, we are being tried and condemned, and, by our silence, plead guilty, and do not raise a hand to prevent the execution of the sentence. Carefully prepared and censored articles for the public press, I think, would be a fruitful means of setting us right with the public.

The Use of the Obstetric Forceps

A Chapter of Practical Suggestions

By WILLIAM RITTENHOUSE, M. D., Chicago, Illinois
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EDITORIAL NOTE.—Dr. Rittenhouse deals with facts, not with theories. Out of a most extensive experience he shows the general practitioner how to meet the daily problems of his obstetric practice. This paper is one of a series.

IT IS perhaps no exaggeration to say that modern obstetrics dates from the invention of the obstetrical forceps. For, in spite of the harm done with this instrument by the reckless or unskilled, in spite of the prejudice against it, both in the profession and among the laity, the fact still remains that its possibilities for good are so great that it may well be questioned whether even the discovery of chloroform exceeds it in importance to the parturient woman.

There is still a prejudice against the forceps, which is quite widespread among the laity and even prevails to some extent among the profession. This prejudice is aptly expressed in a remark attributed (whether rightly or wrongly I do not know) to Sir Astley Cooper. In advising a young doctor, he is reputed to have said, "Buy a good pair of forceps, take it home and leave it there." The idea was that if the doctor met a case in which the forceps was really needed he could send for it, while in ordinary cases its not being at hand would save him from the temptation to use it rashly.

This ultraconservative attitude toward the forceps still prevails to some extent in the profession, although there has been a great change in the last twenty-five years. Undoubtedly so far as the ignorant or reckless doctor is concerned the old attitude is the desirable one, but unfortunately those two classes are just the ones who pay no heed to conservative advice. The man who knows his anatomy and the mechanism of labor thoroughly, and who is habitually careful, is not likely to do harm if he always carries his forceps with him in every case. He will be able to prevent a vast amount of suffering which he could not prevent if he habitually left his forceps at home.

So far as the laity are concerned, their prejudice is largely due to the visible injuries which they occasionally see after a hard forceps delivery. But a little judicious explanation will often enable them to understand that the use of instruments in such a case was not only unavoidable, but actually saved the patient from greater danger.

Let us suppose a child's head shows injuries from the blades and the father is inclined to murmur. I say to him, "Yes, that is unfortunate. But, if I had to pull as hard as that, what do you think would have happened if I had not helped? Do you not see that the mother could never have exerted so much force, and that both she and the baby would have died without help?"

The Misuse of the Forceps

Excluding all unavoidable injuries, there still remains a considerable list of well-grounded objections to the use, or rather misuse, of the forceps. Unfortunately it is true that there are today, as in the past, many instances when the forceps is applied where it should not be, and where it is badly handled after it is put in place. There are injuries to the child's head, vesicovaginal fistulæ, rectovaginal fistulæ, and tears through the sphincter-ani muscle, many of which might have been avoided.

Most of us can look back over our own early experience and recall a sufficient number of such cases to inspire us with due humility in contemplating the subject. And, yet, when we consider how little teaching we had on the practical details of the art, the wonder is that results were no worse.

I think I had as good teaching in obstetrics when I was at college as anybody had in those days; I since have had access to all the textbooks on the subject; and, yet, nearly all the practical knowledge of the use of the forceps that I possess I learned in the school of hard knocks, by making mistakes and then profiting by them, learning how to avoid them in the future.

If I were to make a criticism of the teaching of this subject (and this is not in a captious spirit), I should say that it does not go sufficiently into detail. Minute and simple details, that seem to the teacher too obvious to mention, may be "the very water of life" to the young doctor who is "up against it" with his first bad case. If this article will help some beginner along the rocky road that I stumbled over alone, I shall feel well repaid for writing it.

One of the first things that the beginner has to learn about the forceps is under what circumstances to use it. The inexperienced doctor should limit himself at first to the easiest class of cases—those where the head needs help in passing the inferior strait. As experience gives him more confidence in himself he may attempt the more difficult and complicated conditions.

The Easiest of Forceps Operations

Helping the head through the inferior bony ring is not only the easiest of all forceps operations, but is also by far the most frequently indicated. I know men who have practiced obstetrics for a generation who have never made any application of the forceps but this. In the more difficult classes of cases they always call counsel.

Students at college are not always given a sufficiently clear idea of the distinction between these different conditions calling for the forceps. They too often go out with the idea that the application of instruments is a sort of panacea for all conditions of delayed or difficult labor. I am not infrequently called to apply the forceps only to find that it is not indicated, and sometimes even its use would be impossible. Worse still, I sometimes find that it has been applied, or the attempt made to do so, with serious results to the patient.

In a typical case of low application of the blades the clinical picture is somewhat as follows:

The os is fully dilated so that the cervix has slipped up over the equator of the head out of reach; as soon as this happens the head descends rapidly through the pelvic canal until arrested by the inferior strait. By this I mean the inferior bony ring, and not the vulvar ring of soft tissues. Students do not always get this distinction clear. The bony ring is higher up than the vulvar ring, and as long as the head is arrested at the former there is no strain put upon the latter. When the perineum begins to bulge at each pain, and the vulva to dilate, we know that the head is passing the inferior bony strait and the forceps will not be needed.

But in some cases the head does not readily pass the inferior bony strait. A certain amount of delay here is normal, while the pressure gradually molds the head, making its diameter less, while at the same time the mother's tissues are crowded and compressed against the bony walls making the passage more roomy. But, if the head is unusually large or the bony pelvis unusually narrow, the delay becomes so great that the mother is exhausted and help must be given.

When to Give Assistance

How long the head should be permitted to remain at the inferior strait before assistance is given is a question that cannot be answered categorically. It must depend on circumstances, and what circumstances justify interference depends somewhat on the views of the operator. My own custom is to give assistance early if it seems to be needed.

I can see no good reason for withholding early assistance if the patient is much exhausted or the contractions are lacking in force. If the contractions are powerful and yet produce no results within a reasonable time I think assistance should also be given, for the conclusion may be drawn that the head is large compared with the pelvic ring. The time required for the head to pass the inferior strait cannot be foretold.

Early assistance is safe in either of these two cases: If little force is required the forceps will do no harm; if the head passes with difficulty, help will be unavoidable and it is better to give it early than late. If the head stands absolutely still at the inferior strait for half an hour I have no hesitation in giving assistance in most cases. To let a woman suffer at this stage, for two or three hours, a combination of agonizing pain and exhausting muscular effort, even if she finally succeeds in delivering herself, seems to me to be bad obstetrics.

To say nothing of the bad effects of utter exhaustion, would we in any other department of medicine or surgery permit such prolonged suffering if we were able to prevent it? I think not. I have for some years endeavored so to manage my obstetrical cases as to avoid great exhaustion, and the results have fully justified me.

The woman who feels comparatively fresh and strong when her labor is over is more apt to make a good and prompt recovery than the one who is in a state of exhaustion bordering on collapse. The resistance to disease, or rather to morbific influences, which the normal human being possesses is undoubtedly the chief factor in the maintenance of health, and great exhaustion certainly lowers that resisting power.

(*To be Continued.*)

Gonorrheal Arthritis

How to Prevent and How to Treat It

By E. J. ANGLE, M. D., Lincoln, Nebraska

EDITORIAL NOTE.—In this installment of his series of articles now appearing in CLINICAL MEDICINE *Dr. Angle broaches ideas which are as practical as they are novel. Note especially his suggestion for the prevention of gonorrheal arthritis by bacterin treatment.*

THIS complication occurs in from two to five percent of all cases of gonorrhea. Women are relatively less frequently affected than men, no doubt because of the absence of a prostate and seminal vesicles in the gentler sex. Children are especially susceptible to the disease, and may develop it from the slightest local lesion.

It is well to remember that gonorrheal arthritis is not limited in its origin to gonorrhea of the urinary and sexual tracts. Lydston reports a case in a child three weeks old. Forty-eight hours after birth, the child developed gonorrheal ophthalmia and two weeks later the left wrist and the right knee became involved in an acute arthritis. A colleague, Dr. J. F. Stevens, has just reported to me a case in a babe of two weeks, following ophthalmia, and affecting both wrists.

Gonorrheal arthritis is but a single expression of a general septicemia. In addition to the synovial membranes, we may have involvement of the bones, tendons, nerves, bursæ, endocardium, pericardium, and the meninges of the brain and cord. The systemic poisoning may be due to the gonococcus alone or to associate infection with the germs of suppuration, such as the staphylococci and colon bacilli.

There is considerable evidence to show that the organisms are not invariably present in the affected joints, and that the symptoms may be due to toxalbumins elaborated by the gonococci. This view is supported by the fact that frequently, when the original nidus of infection is removed, the disease rapidly disappears without any local treatment.

Certain individuals, and particularly those of a rheumatic or gouty type, show an idiosyncrasy to this affection. One attack seems to render the joints more vulnerable to subsequent infection and it is not uncommon to find patients who give a history of joint involvement with each succeeding urethral infection.

The time of appearance of the arthritis is seldom before the second week and never before the gonococci have reached the deep urethra. It seems to be less frequent in those having such complications as bubo and epididymitis. The knee, ankle, wrist, and elbow are the joints most frequently affected, and in the order mentioned.

Classification of Gonorrheal Arthritis

Clinically we distinguish three forms of gonorrheal arthritis:

1. Hydrarthrosis, which is generally confined to a single joint and usually attacks the knee, but occasionally the ankle or elbow. It comes on insidiously and the symptoms are subacute or chronic in character. It is characterized by the large amount of effusion present and a tendency to chronicity.

2.. A variety resembling acute rheumatism. Several joints are involved, fever is present, and the usual symptoms of acute localized inflammation.

3. The synovial sheaths of tendons and muscles and the bursæ are attacked. The condition is usually accompanied by vague pains in the joints, but there is no swelling and function is undisturbed. There is tumefaction along the course of the tendons and at times redness of the overlying skin and considerable pain on pressure. The bursæ along the heel need especial mention: that between the tendo Achillis and the os calcis, and that beneath the inferior portions of this bone. The fore-patella bursa should be mentioned, since the effusion is at times extensive and may simulate an arthritis of the knee-joint.

A clear conception of the pathology of this disorder is necessary to formulate rational and effective treatment. Koenig recognizes four varieties: (1) Arthritis with serous effusion; (2) arthritis with serofibrinous and catarrhal exudate; (3) empyema of the joint; and (4) phlegmon of the joint.

In the first variety, there is little structural alteration in the synovial membrane and the joint is more or less distended with a clear, serous fluid.

In the second form, the synovial membrane is the seat of more decided infiltration and the fluid contains flocculent masses of fibrin.

In the suppurative variety, which is more severe though less common than the preceding, the joint cavity is filled with pus. We usually have to deal here with a mixed infection.

The fourth, i. e., phlegmonous variety, and fortunately the rarest, works the greatest ravages on the joint and surrounding structures and is therefore followed by the greatest functional disturbances. This might better be termed an osteoarthritis, since the primary focus is in the articular ends of the bones and involves the joint secondarily. Here we find disintegration and erosion of the articular cartilages and infiltration and thickening of the other structures of the joint.

The Differential Diagnosis of Gonorrheal Arthritis

This disease must be differentiated from rheumatism, acute and chronic; from simple synovitis; from gouty rheumatism; and from tuberculous and syphilitic diseases of the joints. One of the most important steps in the diagnosis is the history, and, if it points to a recent attack of gonorrhea, in a large proportion of cases foci containing gonorrhea can be demonstrated in the prostate gland or seminal vesicles.

The symptom-complex of gonorrheal arthritis is quite distinctive from that of acute rheumatism. In gonorrheal arthritis, the fever is not so high, there is less prostration and sweating and an absence of the sudden subsidence in one joint and the equally sudden metastasis to another, as seen in rheumatism.

The pain symptom is quite characteristic. As long as the joint is at rest, little if any complaint is made of pain and the patient is fairly comfortable. I may add that there is no leukocytosis, as is found in general septic affections.

Chronic gonorrheal arthritis is far more difficult of diagnosis. There is no question in my mind that no inconsiderable percentage of the cases diagnosed as chronic rheumatism, neuritis, neuralgia, etc., are gonorrheal in origin and will respond only to specific treatment. If there is a history of a gonorrhea, no matter how many years past, the urethral canal and adnexæ should be carefully examined, and pus (if present) and all the secretions secured by massaging examined for gonococci. If the seminal vesicles or prostate appear diseased, massagings should be repeated until six negative findings show that their secretions do not harbor gonococci. Fuller believes that the seminal vesicles are affected in every instance of gonorrheal arthritis in the male.

Aids to Diagnosis

We have several aids to diagnosis, one or more of which are available to every practitioner in the land:

The Complement Fixation Test.—This is an examination of the patient's blood for specific antibodies, and is made along lines similar to the Wassermann test for syphilis. I have found the findings of this test altogether dependable.

The injection of gonococcic vaccine as a diagnostic measure.—This bacterial vaccine is injected in a dosage of from 100,000,000 to 200,000,000, and if gonococci are present there follow a febrile reaction and pain in the joints, prostate, or other points of infection.

London has recently used a method which corresponds to the Hamberger "stich" method in tuberculin diagnosis. The skin of the inner surface of the arm is cleansed with alcohol or ether and a suspension of dead gonococci (100,000,000 to a Cc. of normal saline solution) is injected into the skin with a very fine, sterile needle. About two or three minims of the solution is sufficient, as shown by the production of a slight wheal. The injection must be in the endodermal layers of the skin and not subcutaneous. A positive reaction occurs in twenty-four hours, consisting of a central papule red in color, surrounded by a lighter areola two or three inches in diameter. A similar injection of normal salt solution is used as a control.

London mentions a case of positive reaction in prostatitis occurring thirty years after the primary infection. The advantages of this test are its simplicity of application and its reliability.

Treatment of Gonorrheal Arthritis

It is needless to say that any foci of gonorrheal disease along the genitourinary tract should receive thorough and well directed treatment. These methods were detailed in our previous articles dealing with infection of the urethra, prostate, and vesicles.

As a *prophylactic,* I wish to emphasize the use of gonococcic bacterin in every case in which the prostate or vesicles become involved, or in which a general systemic reaction is present. The dose should range from 25,000,000 to 100,000,000 bacteria, repeated every two or three days. I am strongly convinced that this will free the blood stream of living gonococci and render metastasis impossible. There is scanty reference in medical literature to the use of bacterins with this object in view.

General Treatment.—The treatment of gonorrheal arthritis is surgical rather than medical. The remedies prescribed for inflammatory rheumatism are of little benefit in this affection. I have found pure oil of wintergreen in doses of 10 to 20 drops, three times a day in a capsule or dropped on loaf sugar, of considerable value in relieving the pain. Salol or urotropin in 5-grain doses, singly or combined, are useful. At times sedatives and hypnotics, such as codeine, veronal and phenacetin, are necessary. At a later period of the disease, when debility is present, tonics and reconstructives, such as codliver oil, syrup iodide of iron, the triple arsenates of iron, quinine and strychnine, and the glycerophosphates, are indicated. In cases with considerable enlargement of the bones, I have derived much benefit from small doses (2 to 5 grains) of potassium iodide, given in milk an hour after meals. If this disagrees with the stomach, iodalbin in corresponding doses can be substituted.

Specific Treatment.—The value of gonococcic bacterins and sera are now generally accepted by the profession. In a dogmatic way, I believe the serum is indicated in the toxemic cases and the bacterin where undoubted metastatic conditions are present, in other words, a true gonococcemia. However, the serum seems just as beneficial in true metastatic gonorrhea.

In giving the serum, begin with an initial dose of 2 Cc., and repeat in two days, at which time the dose can be increased to 4 Cc., if no improvement is manifest. Later the dose can be increased to 6 or 8 Cc. The larger doses should have an interval of four or five days between them. Relief is manifest early and if no improvement is seen after the third injection it will be useless to continue. Furthermore, the vast majority of subjects will require fully 30 to 50 Cc. of serum.

The dosage of the bacterins should be moderate in acute cases, from 25,000,000 to 50,000,000, and best repeated at an interval of three to five days. As the dose is increased, the interval is lengthened. In subacute and chronic cases, doses up to 500,000,000 are at times necessary.

The technic followed is along strictly antiseptic lines. The site of the injection is unimportant, but for many reasons deep injection of the gluteal muscles is to be preferred. A majority of all acute cases will be beneficially influenced by the treatment. In chronic cases, barring those in which organic changes have occurred, the results will be equally brilliant and gratifying.

Our French colleagues have recently enriched the serum treatment by two novel measures:

Antimeningococcal Serum.—Thirty Cc. of Flexner's or Dopter's serum is injected every second day. This has yielded especially good results in acute and recent forms. Cures have been reported after a single injection.

Autoserotherapy.—This is applicable in cases of hydrarthrosis. The fluid is aspirated from the joint and thirty Cc. of this fluid is injected beneath the skin. This is repeated in one week if found necessary.

Local Treatment of the Limb

Local Treatment.—The patient should be put to bed and the joint immobilized with a light splint. The affected limb should not be used until the acute inflammation has subsided, however mild it may be. Applications may be either hot or cold, as the patient finds most soothing. Personally, I prefer heat rather than cold. The following can be used with benefit: Compresses moistened with a hot solution of aluminum acetate, 2- to 5-percent, or with lead-water and opium solution. The compresses should be quite thick and covered with a dry towel and over this rubber tissue or oiled silk. At times, evaporating lotions will give more relief:

Tr. opii........................	oz. 1
Liq. plumbi subacetatis..........	oz. 1
Alcoholis......................	ozs. 6
Aquæ destillatæ, q. s. ad.........	ozs. 16

M. Sig.: Apply constantly to the joint on lint or cheese-cloth.

A 50-percent ointment of ichthyol is a favorite with many, or the ichthyol can be combined with equal parts of oil of wintergreen. Equal parts of methyl salicylate and olive oil may be used with benefit. All of these are to be applied on lint or flannel, covered with cotton and over this a bandage.

When the inflammation in the joint runs high, or where the symptoms point to suppuration, the ice-bag is unquestionably the best application.

Later on, as the acute symptoms subside, the treatment should be directed toward absorption of the fluid in and around the joint. Many measures are recommended, among which are light touches of the Pacquelin cautery, blisters, iodine, iodine-petrogen, ichthyol, dilute mercurial ointment and the rubber bandage.

Hyperemic Treatment.—This method has not received the attention in America which it deserves. Its use has been a revelation to me and has largely superseded other local measures. Bier, himself, writes: "Yet much more marked is the effect of hyperemia by damming on that form of gonorrheal joint inflammation which is so extremely painful. In these cases, the pain becomes easier in from one-half to one hour from the application of the rubber bandage."

In the damming, a thin rubber bandage is used. This is applied moderately tight in several layers around the limb, reasonably well above the joint. It will soon be noticed that the superficial veins swell, that the skin becomes red and that the limb becomes larger and edematous, and at the same time the skin becomes warmer to the touch. Pain rapidly ceases and stiffness in the joint gradually becomes less.

If the pain increases, the bandage is too tight. Everything depends upon securing the proper degree of hyperemia. The arterial circulation must be unimpeded and the return venous flow checked, but not entirely suspended. Previous painting of the joint with tincture of iodine will increase the hyperemia.

In the beginning of treatment, it is best to leave the bandage *in situ* for only a few hours; but the duration is rapidly lengthened until the periods are ten hours during the day and ten hours at night. The benefits are threefold: (a) Relief of pain; (b) destruction of bacteria, depending upon increased quantity of serum and leukocytes flowing through the diseased joint; (c) the absorption of fluid and liquefaction of the fibrinous products in the joint.

Surgical Treatment of Gonorrheal Arthritis

If after a period of two or, at the outside, three weeks, with a treatment such as outlined above, no improvement is manifest, it is not only justifiable but imperative to resort to operative measures.

The joint is first aspirated and, if the fluid withdrawn is perfectly clear, no further intervention will be necessary. Should it prove to be the serofibrinous form of gonoarthritis, which is by far the most frequent, an arthrotomy should at once be performed.

The incision should be fairly free and the joint cavity thoroughly freed of any fibrinous flakes that may be suspended in the fluid or deposited on the articular surface. The contents of the joint consist of a thick, flaky fluid containing numerous pieces of fibrin ranging in size from a grain of rice to a Lima bean. The joint is then thoroughly irrigated with a bichloride of mercury solution, 1 : 2000, followed by normal salt solution. Solutions of iodine, phenol or emulsion of iodoform may be used if preferred by the surgeon. A drainage tube is inserted, to be removed after four or five days. The joint is then immobilized and moderate compression applied with a bandage. It is understood, of course, that the joint is opened up under the most rigid asepsis.

After the wound has healed and the inflammatory process has entirely subsided, gentle passive motion and massage is begun and later the patient is allowed the use of the limb. We should, however, err on the side of conservatism, since there may be danger of lighting afresh the inflammatory process by resorting to active and passive motion too soon.

Empyema of the joint is fortunately rare, and when present not only the patient's limb but even his life is in danger, and if the latter is saved we cannot promise too much for the former. Here there is but one course to pursue, immediate opening of the joint, antiseptic irrigation and drainage.

In the phlegmonous type, early immobilization of the joint is imperative, since all the component parts of the joint are involved in the inflammation. A plaster cast will best keep the parts at rest. Later, an arthrotomy may be necessary and should not be too long delayed if the previous treatment has not produced a subsidence of the symptoms.

Indolent bursæ are best treated by the injection of a few drops of a five-percent solution of carbolic acid or a twenty-five-percent solution of tincture iodine with a hypodermic needle.

Summarized, the treatment is as follows:

The customary internal and local treatment has little influence on the course of gonorrheal arthritis.

The best results are obtained by the bacterins and serums, associated with the early use of Bier's hyperemia treatment.

Early rest and immobilization of the joint is necessary.

In a limited number of cases surgical intervention is necessary, and if indicated should not be too long delayed.

The Active-Principle Treatment of Pneumonia

By J. M. FRENCH, M. D., Milford, Massachusetts

EDITORIAL NOTE.—This is the final lecture in the course delivered by Dr. French to the students of the Boston College of Physicians and Surgeons. We hope every member of the "family" has read—or will read—every installment.

PERHAPS I can conclude what I have to say to you about active-principle therapeutics in no better way than in giving you a practical illustration of its application to everyday disease; and in doing this, I am going to choose as my subject that most common, most serious and fatal of all our acute diseases, pneumonia. My reasons for this are, first, that I know of no disease which it is more important for you to be able to approach with confidence and handle with success; and, secondly, that the treatment which I shall describe has in this disease won the finest laurels.

"Pneumonia is a self-limited disease and runs its course uninfluenced in any way by medicine. It can neither be aborted nor cut short by any known means at our command." Such is the dictum of Osler, who is perhaps the most widely known English-speaking medical teacher in the world; and through the influence of his great name it has obtained wide circulation and a very general acceptance.

However, this idea is the emanation of the rankest drug-nihilism, the purest theory of the prince of drug-nihilists. It reduces the doctor to the position of a very inferior grade of head nurse, whose duty it is to watch the patient's symptoms while he is dying and then to certify solemnly that there was no help for him.

The active-principle doctor does not accept this dictum, does not believe this theory. He believes that it is his duty to *do something* in the sick-room. More than that, he believes that it is in his power, not only to lessen suffering, but to modify disease and to lengthen life. He is the kind of doctor whom I want to attend me when I am sick. I leave it for you to settle it for yourselves whether or not you agree with me.

The way in which the theory of Osler works out in practice is well illustrated by a story told by a well-known physician at a medical meeting in my home town, some years ago, when the members present were discussing the different methods of treating pneumonia.

A Personal Experience

When this doctor was a senior medical student and was just entering upon the first day of his service as interne in a large hospital he was confronted by what he diagnosed as a severe case of pneumonia, and he naturally felt in a quandary as to what he should do for it. Not being able to settle the question to his own satisfaction, he waited with some impatience the coming of his instructor on his daily rounds. This worthy soon made his appearance and questioned our novice as to the nature of this patient's disease. The young interne replied that he thought it was a case of pneumonia, and he anxiously asked what he ought to do.

"Hm-m-m," was all the learned professor vouchsafed, passing on to his next patient.

Fearful that something was wrong, the interne followed after him and repeated his question.

"Hm-m-m," again hummed the instructor, as he appeared to be wholly absorbed in the case at that moment before him.

Seeing that it was impossible for him to get any satisfaction at this time, the young doctor waited until the professor had finished his rounds and was about to take his departure, when he screwed up his courage and approached him once more, repeating the inquiry, what he should do for his pneumonia patient.

"Y-y-young m-m-man," replied the professor, who was an inveterate stammerer, "it m-m-makes such a d-d-d-damned little d-d-difference what you d-d-d-do in these cases that I have d-d-d-decided to let you exp-p-periment for you-you-yourself."

"And," added the doctor as he told us the story, "I have been experimenting ever since."

If, now, young ladies and gentlemen, you can get some ideas that will enable you to approach your first case of pneumonia with something of a definite idea of what you want to do, and how it can be done, you will find that this frame of mind will give you a great advantage over that of the man who accepts the Oslerian doctrine that it makes no difference what you do. You will have confidence in yourself; and this will get you the confidence of your patient and his friends. These two combined will prove to be the fulcrum upon which you can rest your lever of active-principle medication and move the world. For to *you*, to cure your patient, *is* to move the world.

In the treatment of pneumonia (or, for that matter, of any other disease), you have to consider three things: (1) the patient, because no two persons are alike in appearance and constitution or in physical vigor and the power of resisting disease; (2) the disease, because the severity of a disease depends in part upon the intensity of the infection, and the same disease varies in its manifestations at different times and under different conditions; (3) the treatment, because no two persons require exactly the same treatment, even when the symptoms are practically the same; and, also, because similar results often may be produced by different methods of treatment.

Use the Best Obtainable Remedies

And right here let me say that, while I am advocating what we call the active-principle treatment of disease, it is no part of my purpose to urge to confine yourselves strictly to the use of the socalled active principles. What we want is, not particularly active principles, but the best obtainable remedies.

We advocate this treatment because we believe that in the main, not only the remedies used, but the manner in which they are employed, are such as will produce better results than any others with which we are acquainted.

But we do not confine ourselves strictly to any one class of remedies, nor do I advise you to do so. We are practicing medicine, and our business is to cure our patients. If you can find any remedies that will produce better results—any medicinal principles more potent for good—than those I have described, by all means use them.

It is only in this spirit that we can have any progress in medicine. You must mix your colors—i. e., your remedies—"with brains": you must treat your patients with the aid of common sense and good judgment, remembering that "circumstances alter cases."

The first essential for the most successful treatment of pneumonia is that the physician should be called early—before the case is fully developed or all the classic symptoms have made their appearance. Nor, under those circumstances, should he wait for the further development before beginning active measures of treatment. To wait until it is possible to make a positive diagnosis, is greatly to lessen your chances of success.

Remember the teaching of Burggraeve, that the great end of dosimetric medicine is "*the prevention of anatomic-pathologic lesions*, for these, once established, are above the resources of art." Put this over against the dictum of Osler—and choose for yourselves.

A positive diagnosis can be made only when the symptoms are typical or the disease is well advanced. The early chill is characteristic, but in twenty percent of the cases it does not occur. Rapid respiration is common; still, the variation in this respect is so great that it is not safe to rely upon it. The quick pulse is not found in every instance. Even high temperature is not always present, and its absence has come to be recognized as a distinctly unfavorable symptom. Many patients have little or no pain in the chest from first to last, and sometimes there is almost no cough, even the rusty sputum being absent in a considerable number, especially in the aged. The crepitant râle, when well marked and persistent, is considered almost pathognomonic, but this sign sometimes is absent.

So, do not wait for the occurrence of all these classic symptoms, but, when you find enough to indicate congestion of the lungs with fever, go to work at once to prevent, if possible, that further progress of the disease which alone will render a positive diagnosis possible.

If there is a feeling of oppression and tightness across the chest, with pain and difficulty of breathing, I know of no better remedy than a mustard poultice applied to the affected part and allowed to remain until the pain is relieved and the breathing easier, when it may be replaced by an antiphlogistine poultice or a cotton jacket. If there is no pain or difficulty of breathing, the antiphlogistine—or any other "clay poultice"—may be applied at first. Under these conditions, many physicians prefer not to make use of any external applications whatever.

In nearly all cases of pneumonia a thorough clearing out of the intestinal canal at the outset is desirable. In cases characterized by constipation, nausea, and a coated tongue, you may give 1-6 grain each of calomel and podophyllin every half hour until a grain has been taken, and follow in two hours with a heaping tablespoonful of a laxative saline. Or, if the case comes into your hands at night, you may give a single dose of a suitable purgative, such as the "triplex pill," composed of aloes, blue mass, and podophyllin; and in the morning follow with the usual dose of the saline laxative.

In either of these ways, or in various others, you will be pretty sure to secure thorough elimination, which is an important point. After this, the bowels should be kept clean, securing at least one free movement each day, and for this purpose the saline laxative is often sufficient.

To Reduce High Temperature and Relieve Congestion

We come next to measures for the reduction of the temperature and the relief of congestion, using for this purpose remedies acting through the vasomotor nervous system. The great active-principle vascular sedatives are aconitine and veratrine, either alone or combined with the tonic alkaloids strychnine and veratrine, as in the dosimetric trinity and the defervescent compound.

In children, in delicate women, in the weak, the aged, the debilitated, and in all patients showing a tendency to asthenia, the preferred remedy is aconitine. So far as the pulse is concerned, the special indication for aconitine is the small and frequent pulse.

Veratrine, on the other hand, is the remedy of choice in strong and vigorous adults, and in all subjects showing symptoms of a markedly sthenic character. Its special indication is a rapid, full, and bounding pulse. In the same case veratrine may be required at one stage of the fever, while aconitine is called for at another.

Both these remedies are of the greatest utility in the early stages of the fever, and as a rule neither one should be given in the later stages, or in any stage of cases marked by great debility and lack of vitality, except as guarded by one or both of the tonic alkaloids, strychnine and digitalin. Indeed, knowing that if the disease runs its course the greatest danger in pneumonia arises from the strain upon the heart, the alkaloidist deems it wise to guard against any weakness in this direction from the first, and therefore often prefers to use the dosimetric-trinity granule from the first in all severe and markedly asthenic cases, and the defervescent granule in sthenic cases.

The standard granule of aconitine hydrobromide is 1-800 of a grain, and of veratrine, 1-128 grain. These are the minimum adult doses, and are best given dissolved in a teaspoonful of hot water. If the fever is 103° F. or higher, this dose may be given every fifteen minutes for a few times, then every half hour until the fever begins to lessen, as shown by the tongue becoming moist, the pulse softer and slower, and the temperature lower. When this effect has been produced, the remedy may be given every hour as long as it is considered necessary to continue the effect. If the initial fever is below 102° F., give the dose only half-hourly from the first.

These are general directions, to enable you to make a beginning. But always remember that there is no fixed or arbitrary dose or frequency of administration, *the only object being to produce the desired effect.* Some patients are affected very easily, others only with great difficulty. Some people are very hard to sweat, but I have noticed that even in these cases the fever generally declines in about the usual time under the influence of these remedies.

Strychnine and digitalin are tonic remedies, and their use is well understood by medical men of all schools. Strychnine is the great nerve tonic, and is especially indicated where there is imperfect or enfeebled respiration or a condition of general relaxation of the whole system. Digitalin is the great cardiac tonic, strengthening the heart and slowing the pulse. When given alone in considerable doses, it may sometimes be objectionable on account of its tendency to increase the blood pressure, but when combined with aconitine and strychnine, as in the trinity granule, this effect is prevented. The standard granule of strychnine arsenate is 1-128 grain, and of digitalin, 1-64 grain; and these doses may be given with perfect safety in the same frequency as the aconitine and veratrine, when combined with these drugs.

There is one other active principle which I have learned to use in those cases of pneumonia which are complicated with pleurisy, as shown by a sharp "catching" pain in one or the other side when breathing. This is bryonin, a glucoside derived from bryonia alba, a remedy of which you probably know very little. It is a remedy for serous membranes, and is especially indicated in pneumonia when there is felt a sharp, cutting or stabbing pain in the side, made worse by motion.

I will mention one other remedy which I have used with much success in the treatment of pneumonia, and which I desire to recommend to your favorable attention, although I do not claim that active-principle therapy has any mortgage on it.

General Antiseptic Treatment in Pneumonia

If pneumonia is a germ disease, as is now universally accepted to be the case, then nothing can be more appropriate than an antiseptic treatment. For this purpose I know of no more effective agent than creosote, which is eliminated largely by the lungs, and is entitled to be termed a respiratory antiseptic. Sajous declares that creosote is as nearly a specific in pneumonia as is quinine in malaria. Beverley Robinson, of New York, was one of the first to advocate its use in lung diseases. Van Zandt, of Texas, has been especially prominent in recommending its use in pneumonia. He has found it to abort a considerable proportion of cases, to modify favorably the symptoms and shorten the course of a still larger proportion, and only in a small proportion to fail of influencing it in any way.

Creosote carbonate is the preparation commonly used. Sajous gives it in 10- and 15-grain doses every two or three hours. Van Zandt gives two and one-half drams in twenty-four hours as an average adult dose, and divides this amount into either two or four doses. My own experience has been with the preparation known as thiocol. This is a made-in-Germany, patented preparation, chemically known as the guaiacol sulphonate of potassium.

The main advantage which I find in this, over the cruder preparations of creosote, is the fact that it has very little taste, and may be given in any desired dose without disturbing the stomach. A great disadvantage is that it is still sold at the high price of patented preparations. I give it in 5-grain tablets, two tablets every four, three, or even two hours to an adult, and I have never had any bad symptoms. It is a valuable addition.

Reasons for Failures in Practice

With the treatment thus briefly outlined, it is possible to abort a considerable proportion of cases. That this result cannot be secured in all cases, is due to one or more of the three following causes:

1. Lack of vitality in the individual, so that the system does not react favorably to the medicine.
2. Unusual intensity of the infection, such that the vital forces are overwhelmed by the first onset of the poison.
3. Late beginning of the treatment or lack of thoroughness in carrying it out.

But even when the fever is not aborted, the course of the inflammation is almost always favorably modified, and it runs a shorter course than when left to nature, with fewer alarming symptoms and far less danger of failure of the vital forces than is seen when the coal-tar products and other depressing remedies are used.

After the crisis is passed and the fever is gone, only a condition of weakness and depression remaining, it is better to omit the aconitine from the dosimetric trinity and to rely upon the tonic effects of strychnine and digitalin alone.

You will observe that from the beginning we have guarded against danger from weakness of the heart, using for that purpose the tonic remedies strychnine and digitalin. Add one other needed drug, and most of the cardiac dangers in pneumonia may be satisfactorily met.

Glonoin, or nitroglycerin, is the great emergency remedy, relaxing the tense arterioles, and letting the blood go free when the heart is overburdened. With the active-principle therapist this drug takes the place of alcohol, in a very large degree, compared with which he finds it quicker in action, freer from danger, and more satisfactory in results. Instead of the usual dose of 1-100 grain, he prefers the dose of 1-250 grain, in granule, repeating this as may be needed to secure the desired result. This is one drug which is said to act more quickly when absorbed from the mouth than when injected subcutaneously. When properly used, it works wonders.

Treatment of the Cough

The cough of pneumonia seldom requires more than four drugs, and these are emetine, apomorphine, codeine, and calcium sulphide. Emetine is especially indicated by deficient secretion; apomorphine by a thick, viscid, and tenacious secretion; codeine by the cough of irritation as distinguished from the cough of expectoration; and calcium sulphide by a hoarse, harsh, hard cough, with putrid secretion. The dose of emetine and apomorphine each is 1-64 grain, and that of codeine may be 1-64 or 1-12 grain, according to the nature of the case. They may be given either separately or combined, in aqueous solution, every fifteen to sixty minutes as indicated.

I have come to depend upon this mixture, which I call the A-C-E mixture, for use at the bedside, to loosen a tight cough, to the exclusion of almost everything else. The calcium sulphide is especially useful in the cough of bronchopneumonia, measles, whooping-cough, and the like. It is best given in 1-6-grain granules every hour, and may be given without dissolving, care being taken to take a few swallows of water with each dose.

I can only give you the outlines of the use of any of the remedies named. You must learn their more intimate uses from your own experience, by getting used to them. Then you will know what they will do.

You will see that my idea of a drug to be used in the treatment of disease is something like that of a friend whom you depend on for help and comfort in the work of life. You must get acquainted with your drugs before you can use them to advantage, before you know what they will do, and how long they will last. If they are the real thing, the more intimate your acquaintance with them the better you will like them, and the more you will learn to depend upon them. If they are only shams, you will soon find it out, and the sooner you get clear of them the better.

Drugs are like friends in another respect. It is better to have a few good ones, old friends that you know and can depend upon, than a host of new ones, passing acquaintances, "said to be good," "highly recommended," but not known to you from your own experience.

I have not spoken of the importance of fresh air and plenty of it, of bathing, good nursing, proper nourishment, and many other things essential to the proper treatment of pneumonia, because their importance is recognized by all physicians, and their use is not confined to one school of medicine or system of practice. These things play an important part in determining the issues of life and death.

Now—to sum up:

The active-principle treatment of pneumonia should begin early. Its first aim is to abort the disease.

For the digestive tract: "Clean out, clean up, and keep clean." Calomel, podophyllin, and salines are the preferred laxatives. Give liquid nourishment. "Keep on the right side of the stomach at all hazards."

For the pulmonary congestion: Counterirritation by mustard; depletion by antiphlogistine.

For the fever and the heart: Aconitine and veratrine; strychnine and digitalin; glonoin.

For the cough: Apomorphine, codeine, emetine, calcium sulphide.

For pain: If slight, counterirritation, codeine, bryonin; if severe, morphine hypodermically.

Watch the patient. Dosage to effect. No alcohol.

Preventive Medicine, and the Army Medical Corps*

By RICHARD SLEE, M. D., Swiftwater, Pennsylvania
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EDITORIAL NOTE.—In this communication Dr. Slee presents, in a convincing way, the truly remarkable results that have been obtained, by the Medical Corps of the U. S. Army, in the prevention, and eradication of many of the epidemic diseases formerly baffling medical skill; among these being, above all, yellow-fever, then beriberi, uncinariasis, typhoid fever, and, of course, smallpox. Dr. Slee urges every doctor to make the problem a personal one.

ALL of us recognize the fact, of course, that the economic prosperity of a nation depends largely upon the state of health in which its inhabitants are maintained. Illness and death are of importance, not merely to the individual concerned, or to his immediate family and friends, but every individual citizen must of necessity bear a part in the progress of a nation; and any disablement that interferes with his or her productiveness reacts upon the entire corporate body.

Statisticians have estimated that each case of typhoid fever in any of our communities represents an average money loss of several thousand dollars—a total loss in the United States each year, according to Kober, of $350,000,000 from this one disease alone. This calculation takes into consideration the necessary expenses of the illness, the loss of earning-power of the individual while thus incapacitated, the general loss to the community of his productiveness, and the cost entailed in the way of quarantine, disinfection, and other factors.

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*Delivered before the Men's Club of the First Presbyterian Church, South Orange, N. J., March 14, 1913.

Realizing that each and every case of serious illness in this country, or in any other country, represents a very evident money loss that never can be repaid, we understand the necessity of every effort made by those in authority for the maintenance in robust working-health of the entire population.

In the United States, we have three well-equipped governmental Medical Services, in charge of highly trained specialists, and which make tremendous efforts to stamp out disease and to introduce and maintain proper sanitary conditions. These three Services are, respectively, the Medical Department of the U. S. Army; the U. S. Public Health Service (formerly called the Marine Hospital Service); and the Medical Department of the U. S. Navy. In addition to these three national Services, we have, scattered throughout the country, state and local boards of health.

In selecting the Medical Corps of the U. S. Army for my topic, it is not with any desire or intention of reflecting upon or neglecting the other branches of national Service; but for many years I have been intensely interested in the Army Medical Corps, and, holding as I do a commission in the Medical Reserve Corps, I am naturally more familiar with the work of the Army than that of the other Corps.

Reading laymen are aware of the fact that scientific medicine is of recent origin. To within a very few years, the practice of medicine was conducted, one might say, largely upon traditions. The physician did not know the cause of the majority of ailments to which human flesh is heir, and treatment of necessity depended upon medicaments that had proven more or less useful in the centuries gone by. These remedies were used with knowledge as to dosage and probable results, but without definite information as to why these results were obtained or what specific causative agent they were combating.

The introduction of the science of bacteriology revolutionized ideas and methods. One by one, especially for the infectious and contagious diseases, the causative agents have been discovered and isolated. We are able to study their life-history under many different surroundings, and to produce in susceptible animals the same or allied conditions as found in the human race. And, through these animals, we are able to carry out experiments leading to the introduction of vaccines, antitoxins, and sera, as preventive or curative agents.

The Great Services of Doctor Sternberg. Discovery of the Yellow-Fever Cause

Twenty-five years ago there were but few trained workers in bacteriology. The methods then were crude and limited. In 1878, a medical officer of the U. S. Army, of his own initiative and largely at his own expense, took up this fascinating study of bacteriology more particularly as related to contagious and infectious diseases. This man was Dr. George M. Sternberg—who is the real father of pathologic bacteriology in America. Dr. Sternberg at that time held the rank of major, but eventually was advanced to the position of Surgeon-General, which position he filled with so much honor during the trying period of the Spanish-American War. He retired from active service in 1902. It may be mentioned here that, in 1880, Dr. Sternberg discovered the diplococcus pneumoniæ, the causative agent of acute croupous pneumonia.

For many years yellow-fever was one of the most devastating and feared diseases of the tropics and the southern portions of our own country. Many of us can recall the frightful epidemics raging in Memphis, New Orleans, Jacksonville, and other sections of the South. General Sternberg himself contracted the disease while stationed in Florida, and nearly lost his life. Naturally he was interested in this subject, and he devoted to it an enormous amount of time and research-work in an endeavor to discover the causative agent of this scourge. He worked in Havana, in 1879, as a member of the Yellow-Fever Commission, and in Vera Cruz and Rio de Janeiro during the years of 1887, 1888, and 1889; and although it was not his good fortune to discover the actual infective factor, he did, by the vast amount of work which he carried on and published, clear up the field, so that, when in 1900 he secured the appointment of a commission of medical officers to investigate this scourge, this body was enabled to ignore many leads, and to follow directly those lines that ultimately led up to that important discovery that yellow-fever is transmitted from person to person through the agency of mosquitoes.

The investigators of this board conducted a vast number of experiments. Thus they found that nonimmune persons from the north might, without contracting the disease, and maintain perfect health, sleep in beds in which yellow-fever patients had died, remaining in them for weeks and months under these filthy and disgusting conditions obtaining, wearing the unwashed clothes and sleeping between the unwashed bedding in which yellow-fever patients had died, provided the room be effectively screened against the stegomyia mosquito. And control-experiments clinched the proof. In adjoining rooms, that were scrupulously clean and thoroughly aired, but in which were mosquitoes that had been allowed to bite yellow-fever patients, other volunteers slept and permitted themselves to be bitten. Poor Agrimonte promptly contracted yellow-fever and died. Reed and Carroll, both, also had the disease, but they recovered. In addition to these three, other volunteers subjected themselves to this ordeal, and of these some died, while others recovered.

Sad to relate, Reed and Carroll paid with their lives the penalty for their intrepidity, both dying shortly afterward as a result of the infection. These two investigators did, however, discover and elaborate methods which subsequently were followed out with success by the medical officers in the army of occupation. The result all the world knows. Yellow-fever immediately was banished from regulated countries, and Cuba and other West Indian islands, Panama, Rio de Janeiro, and other danger zones have become almost as free from the yellow plague as the regions of the northern climes.

General Sternberg, with marked foresight, owing to his interest in the scientific side of medicine, in the year 1893 established in Washington the Army Medical School, where medical officers are detailed upon their entrance into the Corps. This School adds to the previous thorough training of these men a very complete course in bacteriology and other branches.

How Other Infectious Diseases Are Being Controlled

To those of us who live in the United States, the conditions prevailing in Cuba, Porto Rico, Hawaii, and the Philippine Islands before and at the time of the Spanish-American War can hardly be realized. In all of these countries little or no attempt had been made to introduce sanitation or to protect the inhabitants from contagious and infectious diseases. In all of these countries smallpox was continuously present, with a death rate running into the thousands each year. In addition to this tropic-wide scourge of smallpox, each of these countries seemed to have certain special diseases that were more or less prevalent.

In Porto Rico, a large proportion of the inhabitants suffered from a pernicious form of anemia that sapped and undermined the constitution of its victims, and which seriously interfered with the productive output of the country.

In Cuba, the most prevalent and serious conditions were the frequent outbreaks of yellow-fever, with its excessive mortality, besides many forms of malarial infections. In the Philippines, in addition to smallpox, and, owing to the nearby ports of China, Japan, etc., frequent outbreaks of cholera, bubonic plague, leprosy, and a peculiar disease of the East known as beriberi, as well as many intestinal diseases occurred.

The Important Work of the Army

Many of us have a vivid recollection of the period of the Spanish-American War of continuous hard fighting and "hiking" in the Philippine Islands; many remember the appalling sick-rate of the troops in Cuba; but those who were not in touch with the situation cannot in the least appreciate the tremendous burdens which fell upon the Medical Department of the Army in those times.

In time of war, the Army is supreme. Civil governments cease for the time being where the operations are being carried on, and other departments do not assume control until pacification is under way or accomplished. The result of this was, that, in addition to caring for the men of the Army, medical officers were confronted in all sections of our foreign possessions by virulent contagious diseases of the types mentioned by me.

The progress and success of an army depends entirely upon the health of its men. They may be trained to the highest point of efficiency, but, unless their health is maintained, they are useless for military purposes.

With the meagre and insufficient regular army possessed by this country, it was necessary at that time to enroll thousands of volunteers. Regular troops of necessity are hardened by continuous practice and drill and are able to withstand exposures that men enlisted directly from the various walks of civil life can not. One can readily understand what a tremendous anxiety it was to the Army Medical Corps to have hundreds of thousands of these green troops thrown into districts and foreign lands, knowing in advance that these various contagious and infectious diseases were always present.

How Smallpox Was Stamped Out

One of the first steps of the Army Medical Corps was to stamp out smallpox. In Porto Rico at the time of occupancy, thousands of cases of the disease existed; in Cuba, an equally large number; and as to the Philippine Islands, it is hard to estimate how many, the death rate in and near Manila alone averaging 6000 per year.

Immediately upon occupancy and before the islands were pacified, compulsory vaccination was established. In Porto Rico, Major Hoff (recently retired as colonel) established vaccine-farms for the production of vaccine-virus, and within a period of not quite four months fully 800,000 of the inhabitants were vaccinated. The result was, that smallpox immediately ceased to exist, and in the next ten years not a single death from this disease has occurred on the island.

In Cuba, under the supervision of General Wood and Colonel Gorgas, similar methods were instituted and with the same striking results.

In the Philippine Islands, Colonel L. M. Maus was appointed First Commissioner of Health under Governor Taft, and his energetic measures directed along the same lines accomplished wonders.

The Control of Typhoid Fever

Typhoid fever has always been one of the most deplorable conditions Army authorities have had to contend with, both in warfare and in camps of any duration.

This infection is world-prevalent; the annual loss by death and disablement is appalling. It is a disease which attacks the young adult at the commencement of their career, and we have about 40,000 deaths each normal year out of approximately 400,000 cases in the civil population of the United States.

It is impossible to gather 1000 men into a command and not find some carriers to spread typhoid infection, but, to give an idea of its prevalence in war-time and to show what has been accomplished recently by the Medical Corps of the U. S. Army, I will present the following brief statistics on the deaths resulting from typhoid fever among the military.

In the Boer War, 31,000 cases, 5877 deaths. In the Franco-Prussian War, Germans, 73-396 cases, 8789 deaths. In our Civil War, more than 80,000 cases. In the Spanish-American War, 20,730 cases, 1580 deaths in an army of 120,000 men. In the camp at Jacksonville, Florida, in 1898, in a brigade of approximately 18,000 men, there were 2693 cases, with 248 deaths.

At the opening of the Spanish-American War, Surgeon-General Sternberg issued Circular No. 1 (date April 25, 1898), outlining very clearly the sanitary responsibilities of the military authorities. In this report he was particular to call attention to the probable role of the common house-fly as a means of conveying typhoid fever and other infections. Had the recommendations of General Sternberg been carried out, we should subsequently have had little infection among our troops. Unfortunately, however, the Medical Corps of the U. S. Army at that time was not sufficient for even our small standing army of 25,000 men, and when it was suddenly expanded into an army of 250,000 the Medical Department, along with others, was swamped and unable to cope with the situation.

On August 17, 1898, General Sternberg secured the appointment of the Typhoid Fever Commission, consisting of Major Walter Read, M. C. U. S. A., and Majors Victor C. Vaughan and Edward O. Shakespeare, surgeons U. S. V. This Board presented a comprehensive and elaborate report on the subject of typhoid fever, on methods of infection, means of control, and gave many other details which have placed their work among the medical classics.

In view of this appalling morbidity and mortality rate from typhoid fever among our troops, one can readily understand how interested the Medical Department was in the announcement that Sir A. A. Wright, an English army officer, had devised a method of vaccination whereby human beings may be protected from typhoid infection. He announced his discovery in 1896, but because of errors in technic and lack of interest on the part of military authorities little was accomplished until 1904, when Sir W. B. Leishman, of the Royal Army Medical Corps, reintroduced the method with some success.

In 1908, Major F. F. Russell, Army Medical School, Washington, D. C., began the production of antityphoid prophylactic vaccine, and during 1908 and 1909 there were vaccinated 1887 persons who volunteered for the purpose. In 1910, the number of volunteers inoculated reached 16,073.

The sudden establishment of the Maneuver Division along the Mexican border in the spring of 1911 brought together approximately a full brigade of 20,000 men. With the history of the Spanish-American War in mind, Surgeon-General Torney and his staff realized the probability of extensive infection among the men, and they were prompt to introduce such sanitary measures as would keep the infections at a minimum.

One of the first measures was the issuance by the Secretary of War (who himself had submitted to this protective inoculation) of a general order making vaccination against typhoid fever compulsory for every man in the brigade under the age of 45. As a consequence, within a very few weeks the entire brigade received this protective inoculation; and the results were startling, indeed, as many of us remember.

TYPHOID FEVER AMONG ENLISTED AMERICAN TROOPS, UNITED STATES ARMY

	Year	Mean Strength	Absolute Cases	Number of Deaths	To each 1000 soldiers of the command, the rates are:	
					For Cases	For Deaths
Prior to use of typhoid prophylactic	1901	26,515	250	17	9.43	.64
	1902	39,736	341	34	8.58	.86
	1903	42,264	246	12	5.82	.28
	1904	43,940	247	12	5.62	.27
	1905	42,834	153	13	3.57	.30
	1906	40,621	230	12	5.66	.28
	1907	35,132	124	7	3.53	.19
	1908	46,316	136	11	2.94	.23
	1909	57,124	173	16	3.03	.28
Under typhoid prophylactic	1910	55,680	129	9	2.32	.16
	1911	55,240	44	6	0.80	.11
	1912	58,119	15	2	0.26	.03

Whereas, in 1898 at Jacksonville we had had 2693 cases and no 248 deaths among 18,000 men, we had, in 1911, among approximately 20,000 men living under practically the same conditions and in the same character of territory, only 2 cases of typhoid fever and no deaths; one of these victims being a civilian who had not been vaccinated.

In San Antonio, at this same time, there were 49 cases of typhoid fever, with 19 deaths among the civil population. As our troops were allowed much liberty, many of them almost lived in the city of San Antonio. What would have been the result without this protective inoculation? The history at Jacksonville, in 1898, tells us.

The introduction of this one measure, alone, by Surgeon-General Torney will redound to his credit as long as we have an army, and will live through ages of medical history. And to his efficient assistant, Major F. F. Russell, who has been personally responsible for the production of this typhoid prophylactic, has watched every step of the procedure, and in whose hands it has been carried to a point beyond dispute without a single fatality and with little or no discomfort to individuals receiving this vaccination, the greatest credit and honor are due. Should we be so unfortunate as to find it necessary to engage in an active campaign, both the military and medical authorities now will be relieved of one of the most tremendous anxieties they have had to contend with in the past.

It is to be hoped that the civil population may be educated as to the advantage of this procedure, and thus the appalling loss both of lives and money each year be wiped out.

The Panama Canal

With the tremendous engineering feat presented in the construction of the isthmian canal we are more or less familiar, but many do not realize that—in spite of the superb technical skill of Colonel Goethals, of the Engineer Corps of the U. S. Army, supported by a very capable army of associates, who is directly responsible for this work—it would have been impossible to complete this vast undertaking, were it not for the work of the Medical Department of the U. S. Army under the efficient direction of Colonel Gorgas and his able associates.

Froude, after visiting the Isthmus in 1885–6, wrote as follows: "In all the world there is not, perhaps, now concentrated in any single spot so much swindling and villainy, so much foul disease, such a hideous dung-heap of moral and physical abomination as in the scene of this far-famed undertaking of nineteenth-century engineering. . . . The scene of operations is a damp tropical jungle, intensely hot; swarming with mosquitoes, snakes, alligators, scorpions, and centipedes; the home, even as nature made it, of yellow-fever, typhus, and dysentery, and now made immeasurably more deadly by the multitudes of people who crowd thither."

When this canal was first talked of, Surgeon-General Sternberg, with his commendable foresight and knowledge, called attention to the fact that its physical completion was impossible under the sanitary conditions existing at that time. The French, who spent so many years of work on the Isthmus, with their capable engineers and the vast equipments in the way of machinery and money, were unable to do any considerable labor under the conditions then existing. I question whether it will ever be known how many thousands of laborers and highly trained men were buried during the period of their operations on the Isthmus; Colonel Gorgas estimates the number at 22,000.

Yellow-fever, malaria, and all of the other infectious diseases seem to be centered in this natural pest-spot of the world. Immediately upon assuming charge Colonel Gorgas began vigorous work on the sanitary problems confronting him. With the knowledge he had gained in Cuba about yellow-fever and the method of its promulgation, he had a large strip along the line of the canal thoroughly cleared up across the country. Mud-holes were filled, vegetation was removed, water supplies were examined and passed upon, houses were screened, so also cesspools and cisterns, in order to keep mosquitoes from breeding, and where possible modern sewage-systems were placed in operation. Thus, with the thousand and one other details which this efficient man and his associates introduced, the work has been pushed toward completion and in all probability will be finished in advance of the time set.

As I stated before, the Canal Zone has been called the plague-spot of the world; but today it is a more healthful place in which to reside than are many of the smaller communities and cities of the United States.

Not to burden you unnecessarily with statistics, those three dreaded diseases, yellow-fever, smallpox, and the bubonic plague, have practically disappeared from the Isthmus; only one case of yellow-fever occurred in 1905 and one in 1910. There was a death from smallpox in 1907, one plague-case in 1905 and another in 1911. This is a record that is not equalled by any country in the world. The United States of America has just cause for pride.

Beriberi and Uncinariasis

One topic that caused considerable anxiety in the Philippines was the prevalence of a peripheral neuritis known as beriberi. This condition was one of the most perplexing ones which the Japanese army had to meet in the Russo-Japanese War; it was found to be very prevalent in the Philippines, and was especially annoying there.

Chamberlin, with a board of officers, attacked this problem. It was found that undoubtedly beriberi was caused by eating polished rice, which is the staple article of diet in those regions, certain substances being removed in polishing which seemed to be necessary for the perfect nutrition of the individual. By simply substituting unpolished rice for the polished article and forbidding the sale of the former in the Philippine Islands, this disease practically has been stamped out.

We now come forward but a few years, and we find Major Bailey K. Ashford and the military officers in Porto Rico confronted with the malady known as tropical, or Porto Rican, anemia. One can hardly realize the deplorable condition of the poor people thus afflicted. These victims had been accused of being lazy and slothful, when, in fact, the physical conditions under which they labored caused such marked depression and weakness that they were positively unable to perform work. Not only were they unable to exert themselves, but the death rate from this condition was appalling.

Following up his investigations with especial care, Major Ashford determined that the cause of this pernicious form of anemia was a parasite known as the hookworm (uncinaria americana). This hookworm is an inhabitant of the human intestines, and it is scattered over the ground of these unsanitary countries by the bowel discharges of those infested with the parasite.

The habit of the natives of going barefoot exposed their feet and ankles to infection from this source. The hookworm being present in the island of Porto Rico, one can readily see that it was an easy matter for this parasite to gain entrance into the system through abrasions, cuts or any lesion on the feet and legs. Entering the blood stream, the parasite is carried along the general vascular system and after a time reaches the lungs, where it passes out into the air-chambers. Then it works upward through the trachea to the mouth, when, upon reaching the mouth, it is unconsciously swallowed by the host and thus gains entrance to the alimentary tract. Here it proceeds with its further development and, sapping the vitality of the victim, gives rise to the phenomena of what is called hookworm-disease—a malady that has become an economic tragedy.

Once the cause of this malady was known, it was comparatively a simple matter to institute proper remedial and preventive treatment. Hospitals and camps were established all over the island, and in a short time a large portion of the population of Porto Rico was under treatment. The result has been that these poor, socalled lazy natives have been relieved of their infirmities and the entire island is awakening and becoming of considerable economic importance.

Many other important and extensive obobservations are under way, notably that of Captain Seiler in association with officers of the Public Health Service in the investigation of that serious problem which we have to confront in our own southern states, namely, pellagra, a disease unknown here some five or six years ago. In that time, however, there have become known some 30,000 cases, with a mortality in excess of 35 percent. Although a large amount of work has been done in connection with this serious disease, its causative factor is as yet unknown, nor have we any specific treatment for it.

How the Practitioner Is Concerned

It will readily be appreciated that in this brief survey I have been able to mention only the most prominent features connected with the work of the Army Medical Department.

The earnest endeavor, the conscientious and heroic work which has been and is being carried out by the officers of the Medical Department of the United States Army not only has a bearing upon the general health of the Regular Army and the community at large, but it may become very personal to many of us. The mobilization of the maneuver division on the Texas border, in 1911, was very close to the point where volunteer troops would be called into the field. Fortunately the crisis passed without this grave fear becoming a reality.

As you are aware, at the present moment we have a division of troops encamped along the Mexican border. It is believed, and generally hoped, that no further increase of our army may be necessary in connection with the unsettled conditions now existing in Mexico. But, in the event of such a calamity as war ensuing, undoubtedly some of us, or our sons, our relatives, would respond to the call to the colors.

A man of proper motives is quite ready and willing to take his share of the risk in his country's cause, nevertheless no man wishes to be left upon the battle-field unattended, perhaps for days, in the event of his being wounded in action; nor in case of illness does he want to be without shelter and proper nursing.

There is a tendency in the minds of some of our legislators to curtail the size of our permanent army establishment and to interfere seriously with the proper development of several of the departments. This has been felt very strongly by the Medical Department in the past. Even with the vast strides which have been made, we are still far from being properly supplied with hospitals, ambulances, and trained personnel.

As a nation, we Americans are prone to postpone grappling with any difficulty until we are actually face to face with it. There are many things that must be anticipated, and the preparation of the medical department of the army requires constant and energetic work upon the part of the officers connected with it. We, as voters, can influence the action of our representatives in Washington in a perfectly proper manner, to uphold and support the medical department in its endeavors to be prepared for any emergency, and I hope that my words here may interest others to take active steps to help in this very desirable and much-needed work.

The American people will never stand for a repetition of the appalling sick and mortality rate of the Spanish-American War. They will hold to strict accountability those who, for any reason whatsoever, may be the cause of such conditions.

The writer acknowledges his indebtedness for reports, reprints, etc., also for the use of many valuable lantern slides from:

Surg.-Gen'l Geo. H. Torney, U. S. A.
Surg.-Gen'l Geo. M. Sternberg, (Retired), U. S. A.
Col. W. C. Gorgas, Medical Corps, U. S. A.
Col. L. M. Maus, Medical Corps, U. S. A.
Lt. Col. J. R. Kean, Medical Corps, U. S. A.
Maj. F. F. Russell, Medical Corps, U. S. A.
Maj. E. E. Persons, Medical Corps, U. S. A.
Maj. Bailey K. Ashford, Medical Corps, U. S. A.
Maj. P. C. Fauntleroy, Medical Corps, U. S. A.
Capt. J. F. Seiler, Medical Corps, U. S. A.
Maj. F. S. Boggs, Corps of Engineers, U. S. A.
Prof. K. F. Kellerman, U. S. Dept. of Agriculture.
W. J. Platka, Bureau of Commerce of the Philippines.

Interesting Cases Occurring in the Practice of a Country Physician

By JAMES L. NEAVE, M. D., Dresden, Ohio

EVERY physician in active practice will, in the course of years, meet with odd and interesting experiences, and I suppose I have had my share. Reading the experiences of others has caused me to turn over the tablets of my memory, and I find that I have had my share, some of which may be of interest to others.

The first instance of this kind to come to mind is that of an odd case of imperforate nipple. The woman was a primipara. Everything seemed to be normal after delivery, but the mother began to complain that one of her breasts was enlarged and hard. Remedies employed to remove this condition were without effect; the breast-pump failed to draw a single drop of milk; all other efforts for relief were without avail. Finally the breast was lanced several times and there was eventual recovery. When the next child came, particular attention was given to this breast, with a view to preventing formation of milk. The child was allowed the use of the other breast, but the milk seemed to lack the elements of nourishment, for the child wasted away until it was taken from the breast and fed artificially. In subsequent confinements both breasts were at once "dried up" and the babies were brought up on the bottle. If there were tubes in the nipples of the breast in question, there certainly were no openings for the escape of milk.

Not long ago I officiated at the most sudden birth in all my experience. Symptoms gave evidence of a larger amount of liquor amnii than usual. Pains were strong, but the os dilated slowly. At last I deemed it advisable to rupture the membranes and did so. The escape of water was the largest I ever have witnessed. It came with a rush, pouring clear up to my elbow, and making a sound almost as if a barrel was being emptied. I removed my hand for only an instant, replacing it immediately. Contrary to established rule, there was not a moment of delay in the descent of the head, and during the moment that my hand was away the head was completely expelled through the vulvar opening. Later I found a medium-sized tear of the soft parts, but nothing serious.

Another odd case recurs to memory. The parturient woman was large, coarse, animal in nature. I found her in a log house, with the room bare of conveniences and no carpet on the floor. She was walking around the room, saying that she never laid down during confinement, as the pains always stopped if she did. The floor was a sight—wet all over with the escaping water. Three times I induced her to lie down, but, sure enough, the pains stopped each time almost immediately. The only way I could think of to finish the delivery was, to employ in a modified way the method I had learned from my Indian experience.

I got the woman out of bed and onto her feet—had her squat down in the corner of the room with her back to the wall, and then, myself squatting in front of her, I delivered the child onto the floor. After placing her on the bed, I attended to the removal of the child from the cord. Labor-pains now again ceased entirely, so that, in order to remove the afterbirth, I once more had to go through the same performance—placing her in the same position on the floor and then completing the operation. The woman made an uneventful recovery, as women of her class generally do. Incidentally I may remark that this case is one of my crown jewels, I feel, for I never received pay for my services, laborious as they were.

One of the worst hysterical cases I ever saw occurred in my practice on the frontier. Life at an Indian agency, especially for the women folks, was not always one "glad, sweet song." Everybody was more or less under a nervous strain, the peculiar surroundings making this condition almost inevitable. If a woman naturally of a nervous disposition had, under the additional stress of being sick, a nervous breakdown, it was not much shame to her; but the case was all the more difficult to handle. In this instance it was an eastern woman of refinement, nearly two thousand miles from home and just recovering from a physical break-down. She became listless, morose, dejected, finally refusing medicine or nourishment of any kind. She grew pale and bloodless in appearance—simply lay still and took notice of nothing. There was no organic trouble of any kind—simply a case of dying from inertia; for death was very near.

Finally I told her husband that she would die unless she was shocked into action. As a last resort, in order to save her life, I recommended the free use of a switch well laid on, telling him that medication was absolutely useless. He received my advice in amazement and asked if I was serious. When I told him that I was in earnest, in so far as insisting upon the adoption of some radical measure, he requested me to remain away for a day and he would do the best he could—but said he could not follow my advice exactly. One day passed, but the day following I was called in. I found my patient propped up in bed, with a light wrap around her shoulders, color in her lips, skin looking more life-like, eyes snapping with resentment. Also she was able to talk and she acted as though she would like to say several kinds of things to me in a way I probably would understand.

The husband later explained to me that he had considered my advice, had spoken his first harsh word to his wife, and had done the hardest duty of his life. After thinking the matter over carefully, he had adopted the following plan: He went to the kitchen and prepared the table for two. Then coming into the bedroom, he ordered his wife to get up and come to the table. Of course, she paid not the slightest attention. He then wrapped her up carefully, jerked her up, carried her out into the kitchen and slammed her down into a chair roughly. Then taking a chair opposite her, he gruffly told her that if she wouldn't eat she might sit there and watch him eat; and throughout the meal he continued to make unkind remarks to her. The woman was completely astonished out of herself—her color began to rise, her eyes began to snap, and before the meal was over her tongue loosened up and she said things in plenty. When the husband was through eating an utterly savorless breakfast—as he told me—that nearly choked him, he gathered her up roughly, put her back into bed in any way but gently, and then, after gruffly telling her that she could expect a repetition of the same treatment at the next meal, stalked out of the room. When he was by himself, he broke down and wept.

The treatment, however, was successful. The woman was aroused out of her depression—her temper was stirred and she came back to own herself. When the time for the next meal came around, she asked to be carried to the table and ate with appetite. Recovery of strength was rapid and she was soon around attending to her usual duties. And to the day of her death, many years later, she always had a warm friendship for the doctor who suggested the rough awakening.

One of the strangest cases that ever came under my notice—of relief of certain surgical conditions by strange methods—came through the medium of a railroad accident. The patient was a heavy-set man. The car in which he sat had, by an accident, been torn off its trucks and then been put back, whereupon it was started for the shops, running at good speed. Taking a curve, the injured car was again thrown from its trucks, turned a somersault and landed at the bottom of a high embankment, the wheels keeping to the track. My patient somehow was thrown out of the car through the door and alighted violently in a sitting posture on the ballast forming the embankment. This ballast looked like iron slag, whence some idea can be conceived of the force of the blow. No bones were broken, but there were bruises and severe muscle wrenching of the legs. The principal injury was a severe concussion of the brain.

The patient lingered for several weeks, with concomitant aberration of the mind. As the bodily shakeup improved, the difficulty in handling the condition increased, the patient showing a restless desire to get up—but with the mental faculties simply developing a high degree of cunning. The outlook seemed serious, indeed. One night the nurse carelessly dozed off without giving much attention to the condition of the patient, when she was suddenly awakened by a crash and found the patient sitting on the floor. He had attempted to get out of bed, had sat on the edge of the bed, slipped off and sat down on the floor with his full weight, fairly jarring the room.

The patient was wild and excited and began talking rapidly. He was impressed with the idea that a woman had come into his store to sell a basket of eggs, which, being a wholesale merchant, he did not wish to be bothered with. The dream-woman insisted—he became irritated, took the basket from her with a jerk and started rapidly toward the rear of the store. In his irritation he did not attend to his footing, slipped and fell. That, he said, was the noise we had heard, and he called our attention to the unbroken eggs scattered all over the floor. The hallucination was very real to him, his eyes glittered with irritation and his tongue ran on unceasingly.

Soon the wonderful occurred. Slowly the man quieted down, a dazed intelligence came into his eyes, the mind swung toward its normal balance, and the next morning found him rational. Recovery was rapid—and now, several years later—there seems little more than the nervous recollection of the accident remaining. He has a nervous dread of a railroad ride and avoids it as often as possible. The concussion seemed to have been cured by a second concussion or shock of the same character. The treatment may be good homeopathy, but I cannot recommend it.

A case of sarcoma occurring recently in my practice has been of intense interest to me. The patient was a young woman, and the growth was in the right shoulder-joint, involving the head of the humerus. The verdict was, amputation at the shoulder-joint; but the surgeon directly in charge determined on another course. He cut down over the deltoid muscle along the line of the humerus, dislocated the head of the humerus and tipped it out. The socket was carefully examined, and it seemed to be clear of infection. The shaft of the humerus midway between the shoulder and elbow appearing perfectly healthy, the bone was sawed at this point, removing entirely the upper half of the humerus; then the wound was closed. Healing was perfect, without formation of pus.

There never has been any reappearance of the disease; and today the casual observer would not notice anything unusual when meeting the young woman, except that, when she has occasion to shake hands, she extends the left hand. She has almost prefect use of the forearm and hand, does almost anything that anybody can, but of course cannot use the arm itself where the shoulder-joint action is needed. She has married since then and has one child, which she handles without difficulty, although many of her actions are queer and awkward. She is in vigorous, good health and the surgeon's experiment has proven to be a glittering success.

My latest remarkable case is also a shoulder case. It is the only one of its kind I ever saw or heard tell of, and the surgeon in charge also acknowledged that it was entirely new to him—in a hospital practice covering years, he had never seen its like. The only name I can give it is necrosis of the skin.

The patient was a man past middle age. Working in a sand-pit, he knocked a line of skin about one and one-half inches long off the back of his right hand. He thought nothing of the injury, and, after covering the abrasion with a piece of newspaper tied on with an old handkerchief, he continued with his work. Two days later the hand became swollen and painful, and he quit working. The swelling very shortly involved the arm up to the shoulder. At several points—the back of the hand, over the inner side of the elbow, and along the inner side of the arm—the skin assumed the appearance of having been scalded. Next, the skin and connective tissue came away in shreds and strips. The muscles were bared and the connective tissue between the muscles came away. The biceps muscle in particular was laid bare and the brachial artery was exposed and could be seen beating deep down along the border. The skin on the inner forearm sloughed away, exposing the muscles. It became evident that the process had no intention of stopping, as pus began to show, burrowing in the region of the axilla.

As a last desperate effort to save the life of the patient, the arm was amputated at the shoulder-joint, and it was difficult to obtain sufficient healthy skin to form a flap, even after the parts were flattened by removing the head of the humerus. Almost immediately after the operation the patient showed relief from the debilitating drain of the diseased arm and slowly rallied. The wound healed largely by granulation, the stitches holding poorly, and there was considerable pus formation. This, however, was not in the least surprising when the character of the condition is taken into consideration. The man eventually made a good recovery and today is walking the streets of his home town.

While on the subject of surgical cases, I am reminded of one that occurred in my younger days and which made a profound impression upon me.

The physician with whom I was at that time associated, received an emergency call and found his patient to be a man with his forehead crushed in. The man was engaged in a wheel factory, his work being turning hubs. The chisel used in this work was held supported against the rapidly turning hub, which of course, turned towards the workman. The chisel struck a knot, the hub split, and a section was driven against his forehead with crushing force.

The verdict of both the doctors called in was, that the man would inevitably die. He was unconscious and breathing heavily. A triangular piece of frontal bone over the left eye was broken loose, involving the entire orbital ridge on that side, and extending upward about two inches, to a point. Two cuts over this place were made into one, by the use of a bistoury, and the fragment picked out. A larger triangular piece of frontal bone over the right eye was also broken loose. This fragment included the orbital plate and the entire orbital ridge on that side, and pressure on the apex of the broken bone pushed the eyeball forward and outward.

The older doctor suggested removal. My advice was to stitch up the cuts and let the piece of bone remain, for the cosmetic effect on the head of the corpse. For, I argued, the man is bound to die in a very short time, and he will look horrible with his forehead all caved in by having the greater part of the frontal bone all removed. So, the parts were stitched up—we retaining the removed fragment.

Examination of the hard palate revealed the fact that it was crushed into a number of pieces. We told the wife that it was merely a matter of a short time when her husband would die, that there was absolutely nothing we could do, and left.

Some four or five days later, a wild-eyed woman rushed into our office, with the excited inquiry as to what she should do for her husband. Inquiry revealed the fact that she was the supposed widow. She had left her husband sitting up in bed, shaving himself, and she was afraid that the effort would kill him. Evidently she need not have been worried—it was proven incontestably that it would take more than that to kill him!

The man made a complete recovery so far as his general health was concerned! The cut made by the doctor healed by first intention, leaving not a mark. Where the bone had been removed, there was, of course, a depression, but outside of this the only thing noticeable was, that the man's entire mentality was changed. He went back to work at the factory, but was sullen and morose and had an ungovernable, unreasoning temper, entirely different from his former self, so that if crossed the slightest by any of his fellow workmen he would viciously throw at the party incurring his ill will anything he happened to have in his hand, so that the workmen were forced to let him strictly alone. From being quiet and peaceable, he became really a dangerous man.

These few cases have been written up with the hope that they would so meet with the approval of my professional brethern that they would keep the ball a-rolling and favor us with a recital of some of the interesting happenings that fall to the lot of all active practitioners.

Spring is Coming—Perhaps

By R. H. ROBERTS

When the tender little snowdrops are unfolding to the view,
And the hedgerows and the woods are turning green,
While the annual demand note for the Income Tax turns blue,
And the paper-hanger enters on the scene,
Spring is coming!

When you go out in the morning, and the sun above is bright,
You joyfully discard your coat and gamp,
And get the influenza, and rheumatics, and the blight,
Returning in the evening cold and damp,
Spring is coming!

When the furniture is standing in the garden on its head,
And the carpet has departed from the floor,
When you have the utmost trouble every night to find your bed,
And fall against the newly varnished door,
Spring is coming!

When a lady to her husband says: "The sales are on in town,
You like me to look pretty, don't you, Jack?
I want a ducky costume and a fascinating gown,
For I haven't got a garment to my back,"
Spring is coming!

THERAPEUTIC NOTES

LARGE DOSAGE OF ATROPINE FOR EPILEPSY

Dr. Dorner (cf. *Therapeutische Monatshefte*, 1912, May) argued that the degree of the disturbance in cardiac function is of importance for the course of epilepsy. Accordingly he attempted, in eleven cases of severe epilepsy, to increase the cardiac action and to regulate intestinal function by subcutaneous doses of 3 milligrams each of atropine sulphate, these sometimes being repeated at intervals of eight hours. In some instances the epileptic attacks were aborted; in others, they were clearly influenced beneficially. In spite of the enormous doses of atropine, no toxic effects were noted.

CALCIUM SALTS IN SKELETAL DISEASES

Jacoby and Schroth report upon the action of calcium lactate in a case of fibrous osteitis (cf. *Therapie der Gegenwart*, 1912, Dec.). The diagnosis of cystic fibrous osteitis had been made clinically and by the x-ray. There existed a fracture of the right humerus. No improvement having occurred after the administration of potassium iodide for a period of six weeks, and inasmuch as the fracture had not yet united, the patient was given calcium lactate; and this was followed by complete union in the course of four weeks.

In addition, the other affected portions of the bones improved remarkably. In one tibia a cyst had existed which under the influence of the calcium medication was changed into bony tissue. Examination of the metabolism in this patient had shown that the calcium-content of the urine was enormous and that thus the organism was being impoverished in calcium. This excessive loss was remedied by the administration of calcium lactate, and calcium retention occurred, the excessive elimination being arrested.

Calcium lactate (or, still better, calcium lactophosphate.—Ed.) has proved to be of great value in many instances in which a reconstructant, particularly of the bony tissue, was required. The remedy is sure to prove of benefit in cases of fracture in all patients whose general nutrition is below par, also in rickets, osteomyelitis, and similar maladies.

EDEMA CAUSED BY EXCESS OF SALT IN DIET

A. Stevenson reports a case of a young married woman (*British Medical Journal*, Dec. 28, 1912) suffering from general edema for which no cause could be found except the excessive eating of salt. When the salt ingested was limited, the edema rapidly disappeared.

PNEUMOCOCCUS INFECTIONS

Sir Almroth Wright discusses, in *The Lancet* for December 14, 1913, the pharmacotherapy of pneumococcus infections. An agent directly destructive to the coccus should be bacteriotropic, and monotropic toward this particular coccus, acting against it, and against no other. Such an agent should be sought in the human organism, which contains "a laboratory which can, within certain limits, furnish bacteriotropic substances which will enter into destructive chemical combinations with any and every variety of bacterial protoplasm."

We can also conceive of drugs that might accomplish the same purpose. The term chemotherapy should include pharmacotherapy, and also immunotherapy, since the attack made in the latter upon the microbes is a chemical one. The pharmacotherapy of Ehrlich differs radically from the use of antiseptics, since nobody expects the latter to act monotropically. It is clearly indefensible to administer a drug for which we have no *a priori* grounds or evidence showing that it does what is intended.

He takes up Morgenroth's suggestion of ethylhydrocuprein hydrochloride for pneumonia, and finds that, while lysol, creosote, and guaiacol do not exert in serum nearly the germicidal powers they display in watery solution, Morgenroth's remedy kills the pneumococcus in 400,000 parts of serum and inhibits its growth in 800,000 parts; these values being about the same as those of its watery solutions. This agent also exerts its germicidal action specifically on the pneumococcus. Morgenroth's experiments on mice showed that ethylhydrocuprein prevents the development of inoculated pneumonia in 90 percent of cases and cures it in 50 percent.

DOSAGE OF DIPHTHERIA ANTITOXIN

In a review of recent researches in serum therapy (*Therapie der Gegenwart*, 1912, October), F. Rolly shows that, in spite of many unfavorable reports and opinions that have been expressed, the curative value of diphtheria antitoxin can not be denied, and that the comparatively high doses which are administered in France and in this country, as compared with those customary in Germany, are not only not harmful but rather beneficial. Prof. Rolly concludes that at least 1500 units [European units, not American units, which are smaller.—Ed.] should be injected in mild cases of diphtheria, and at least 3000 units in severe ones. The injections should be given as early as possible and made intramuscularly. If benefit does not become manifest promptly or if new symptoms of disease occur, the injection should be repeated.

ARNICA DERMATITIS

Arnica has long been employed in the household as a favorite remedy for all sorts of superficial injuries, while enjoying a reputation of being not in the least harmful, and exerting a soothing and beneficial action in all contusions and even in the case of fresh wounds.

In spite of this popular idea, the drug has been expunged from the British Pharmacopeia as an uncertain and often even dangerous remedy, while Whitla, in his "Materia Medica" (6th edition), says that external applications of preparations of arnica cause irritation of the skin that may take on serious or even inflammatory action, and extending to distant parts.

In *The British Medical Journal* for December 21, 1912, F. R. Proctor-Sims reports the case of a young married woman who had received some bruises falling downstairs and who had made application of the tincture of arnica. When seen by the physician, her lumbar and sacral regions were covered with a red, angry and extremely irritable erythematous rash. One side of her face was puffed, and there was a rash there in appearance very like urticaria. There was a similar rash on one forearm. Strangely enough, none of the arnica had been applied to the latter two locations. The rash and irritation subsided in a few days under the combined treatment with saline purges and a sedative salve.

CRUDE COAL-TAR FOR SKIN AFFECTIONS

According to *The American Practitioner*, Mueller (*Deut. Med. Woch.*, 1912, June 6) reports his experience in the Breslau skin clinic with crude coal-tar. The tar was painted in a thin layer on various sorts of lesions, allowed to dry, then covered with a muslin bandage. When well borne, the application was repeated in twenty-four hours, and again two or three days later, according to indications. Removal of the tar, when desired, was effected by means of dressings of zinc paste or ichthyol-zinc paste.

VERONAL AND PHENACETIN

Von Noorden (in *Therapie der Gegenwart*) states that he has found the combination of veronal, 5 grains, and phenacetin, 2 1-2 grains, an exceptionally useful combination for insomnia. The addition of the phenacetin to the veronal not only doubles the hypnotic effect of the veronal, but it prevents unpleasant after-effects from the drug, such as headache, tired feeling or confusion on the following day. This combination, with codeine phosphate, 1-2 grain, added, he found valuable where the sleeplessness was due to an irritating cough.

PROPHYLAXIS OF TETANUS BY MEANS OF SERUM

From a detailed study of the literature on the subject, F. Rolly (*Therapie der Gegenwart*, 1912, October) concludes that tetanus may probably be prevented by prophylactic injections in the neighborhood of the suspected wound and elsewhere of antitoxin, 100 units. In some instances in which tetanus appeared in spite of such injections, the disease took a mild course.

Dr. Rolly calls attention to the fact that, after prophylactic serum injections, anaphylactic symptoms may occur, especially if the injections are given at intervals of more than eight days. In such instances, serum derived from animals other than horses should be used or else a condition of antianaphylaxis should be produced artificially.

It is also well to dress suspected wounds prophylactically with liquid serum. The same end is obtained by a tetanus-antitoxin ointment that has been prepared by Bockenheimer.

ADRENALIN IN WHOOPING-COUGH

In *The British Medical Journal* for December 28, 1912, G. V. Fletcher reports favorable results from the administration of adrenalin in whooping-cough. He was led to employ this after successfully treating some patients afflicted with asthma with hypodermic injections of a 1 : 1000 adrenalin solution. As he did not think it wise to attempt hypodermic medication in children, he gave the remedy by mouth, the dose varying from 1 to 3 minims, taken in water, according to the age of the patient. The first dose in infants under six months of age was 1-2 minim, which was found to be too small. The largest dose given was 3 minims, in the case of a patient seven years old. The frequency of the administration varied according to the frequency and severity of the paroxysms—every three hours in the more severe ones and every four hours in the less acute.

In practically every one of 40 cases there was a decided benefit, although not in all was the result curative. Under adrenalin treatment, the author found that only exceptionally an attack of whooping-cough lasted longer than three weeks. No other form of treatment was administered, except that the patients were allowed out whenever the weather permitted.

INFLUENCE OF MILK IN INFANTILE CONVULSIONS

In an interesting paper on a milkless diet in spasmophilia, W. Raabe (*Therapeutische Monatshefte*, 1912, May) mentions the well-known fact that spasmophilia is related in considerable degree to the mode of nutrition, and that Finkelstein has pointed out the great importance, in this relation, of cow's milk. The relative immunity of breast-fed children from spasmophilia may be explained by their usual freedom from chronic digestive disturbances; but the fact must not be lost sight of that this breast-feeding does not afford an absolute protection against spasmophilia, since even in breast-fed infants the calcium-index, which today is generally acknowledged to stand in direct relation to spasmophilia, may become unfavorable. Indeed, among 27 children affected with spasmophilia in a certain physician's private practice, three, or a little more than 11 percent, had been breast-fed.

As already mentioned, clinical investigations have shown that cow's milk is an important etiologic factor in the production of spasmophilia, and that this is almost entirely antagonized by breast-milk and by milkless diet. In this respect the action of cow's milk must be compared to a poisonous action and is partly dependent upon its sodium-content, while it is counteracted by calcium.

It follows that a diet is best if it contains cow's milk in only such an amount as is absolutely necessary for the permanent development of the infant. Moreover, a still better diet would be one in which cow's milk could be eliminated altogether, that is, first of all breast-milk with or without some albuminous food, such as has been suggested by Finkelstein in the case of older children and for younger infants who do not receive enough nourishment from the breast. The albuminous diet employed by Finkelstein is applicable in children from the ninth month on.

In the smaller children the nervous irritability which constitutes spasmophilia and which depends upon an unfavorable calcium-index was remedied by the substitution, to a greater or lesser degree, of broth, buttermilk, codliver oil, grits, etc., for milk, and by the administration of calcium acetate in 5 percent solution, together with aromatic spirit of ammonia.

UROTROPIN AS A GENERAL SYSTEMIC GERMICIDE

Emil Zak (cf. *Therapeutische Monatshefte*, 1912, April, p. 270) discovered accidentally that hexamethylentetramine (urotropin) is eliminated with the sputum not only through the bronchi but also through the salivary glands; and it occurred to him to administer the remedy for the purpose of lung disinfection, principally in ulcerous processes of tuberculous gangrene and bronchiectasis.

In addition to these uses, others are suggested by the fact that urotropin very probably is eliminated through the secretions of the eye and that it has been found in the bile. It has also been shown to prevent fermentation in the gastric contents, so that its scope of usefulness appears to be very wide, and the author encourages clinical trials of the remedy in these conditions. The drug is well born in doses of from 2 to 4 Grams.

GLEANINGS *from* FOREIGN FIELDS

TRANSLATED BY E. M. EPSTEIN, M. D.

Antitoxin and Antitoxin Therapy

(*Concluded.*)

THE detoxication of toxins by antitoxin, accomplished by the forming of a non-poisonous combination from both, and this is shown by the fact that in certain cases we can succeed in separating again the poison from the detoxicated toxin—the antitoxin combination. Thus Roux and Calmette were able to make poisonous again the harmless mixture of snake poison and antitoxin by boiling, because the antitoxin in this case is readily destroyed by boiling heat, while the snake poison can better withstand a high temperature. (Roux and Calmette, *Ann. de L'Institute Pasteur,* 1895, page 225.)

Again, Morgenroth succeeded in separating by acids the poison of diphtheria from its combination with antitoxin. (Morgenroth, in *Virchow's Archiv,* 1907, Bd. 190.) Lastly, in certain individual cases, both toxin and free antitoxin will diffuse through certain membranes, while the mixture of both will not. (Martin and Cherry, "Proc. of the Royal Soc.," 1898, and *British Medical Journal,* 1898.)

The manner of how antitoxins originate is obscure. Their specific nature suggested the thought that they arise from the toxins, i. e., that the organism is able to convert toxins into antitoxins, which later could then make innoxious any new supply of poison. (Buchner, *Muench. Med. Woch.,* 1893, p. 449.) But then there would have to have been quantitative relations between the amount of the incorporated toxins and the antibodies originated from them. But Knorr has shown that, when, for example, a certain amount of tetanus toxin had been injected into the organism, it then is able to produce so much antitoxin that 100,000 times the amount of toxin injected could be neutralized by it. (Knorr, *Fortschritte der Medizin,* 1897. Bd. 15, and "Habilitationsschrift," Marburg, 1895.) Furthermore, Roux and Vaillard have been able to remove, by repeated venesections, the entire blood of horses which were immunized against tetanus, without essentially diminishing the antitoxic power of the serum of these animals.

Also, of other antibodies related to the antitoxins (e. g., the agglutinins from the serum of persons who recovered from abdominal typhus, and which are so valuable diagnostically), we know that they are demonstrable in those persons for months and years, although we know from the fate of the ready-formed agglutinins introduced from without that they vanish gradually either by internal destruction or through the excretions.

In active immunization these anti-bodies must be reproduced repeatedly. Consequently, there arises the disproportion between the number of antitoxins and the resulting releasing toxins, and the continual production of the antitoxins without further supply of toxins, all of which makes it very probable that the antitoxins are the product of cell metabolism.

The antitoxins are, therefore, regarded as the products of (professedly as yet perfectly unexplained) specifically reacting processes which neutralize the toxins in the cells. When these reactions have once resulted, then they can keep up the work of inciting for a long time. Similar as in other effects of irritation, there is no need of the existence of a definite proportion between the induced amount of the toxins and the production of the resulting reaction.

As to the locality where the antitoxins are formed, we, also, are very insufficiently informed. The blood is considered as the place of their accumulation, but not of their generation. Among the organs, it is only those of the lymphoid tissues that already contain protective bodies at the start of the immunization process before it can as yet be demonstrated in the serum. (Pfeifer and Marx, *Zeitschr. f. Hyg.,* 1898, Bd. 27, p. 272

Wassermann, *Berlin. Klin. Woch.*, 1898. s. 209. Roemer, *Arch. f. Ophthal.*, 1901, Bd. 52, p. 72.)

TREATMENT OF CLIMACTERIC TROUBLES

By these troubles are meant those certain symptoms which are apt to occur in nearly all women during and after the extinguishment of sexual maturity. These troubles are therefore connected with the senile changes that take place in the ovaries.

As long as there are ovarial tissues capable of functionizing they fulfil two objects. One is, the maturing and expelling of the ova, and connected with this is the retrograde action of filling up the emptied follicle and forming from it the corpus luteum and albicans. A second function of the ovarian tissue is to provide the general circulation with the socalled ovarian hormones. The latter are products of internal secretion which influence very extensively both the circulation and the metabolism, and the origin of which is thought by some to be in the follicular portion of the ovaries, and by others, in the connective tissue of those organs.

Both of those functions cease to operate when the involution of the ovaries takes place, which manifests itself clinically as a cessation of the menses, and, anatomically, leads to a shrinking of the uterus and ovaries. It is this process which is often accompanied with general and genitolocal disturbances both of which manifest themselves essentially in the vascular system.

Congestions toward the head and cardiac palpitations are prominent symptoms of the general disturbances in the climacteric period. Both of these symptoms may occur when the patient is at rest, but more often when bodily exertions, even of a lighter kind, have taken place, and after psychical excitement, especially if unexpected, has overtaken her. With these symptoms, there also may be a feeling of dizziness, tinnitus aurium, and eruption of perspiration. The nervous system may also become implicated by an increased irritability and even by well-pronounced states of depression, and not rarely, too, merely by increased sexual excitement.

Artificially induced menopauses predispose to stronger and longer enduring climacteric general disturbances, to a certain degree, and this is true the younger the individual is on whom castration was performed. Neurasthenic persons have considerably more to suffer from climacteric troubles.

The general symptoms described above are not amenable to a therapy of causes. Symptomatic measures will refer first of all to the regulation of the diet. Alcoholics and coffee must be abstained from, and the use of spices and of pepper too, and salt and vinegar must be largely curtailed. Meat is, indeed, not wholly to be proscribed from the diet, but milk, eggs, and vegetables should be given the preference. The stools will become more regulated by this more vegetarian diet, but when needed bowel movements should be promoted by means of enemas and bitter mineral waters; but special cathartics should be strongly advised-against. In combating obstinate constipation, moderate daily exericses in the open air such as the lighter sports, or a little garden or field work, will do good service. But much good as these lighter bodily exercises usually do to the entire condition of the climacteric woman, in the same degree all greater exertions will be badly borne by her.

When nervous phenomena become more prominent, then hydrotherapic procedures will be in place: a wet-pack of two hours' duration in the evening, or a bath or else a cool rubbing in the morning, followed by an hour or two of rest in the bed. Against an eventual unwelcome sensation of strong sexual desire we may try cold sitz-baths before going to bed at night, also lying on a hard bed if possible, or, when it can be borne, to fight against it with bodily work till exhausted. Also make use of valerian preparations, and small doses of bromine, but give no habituating medication of narcotics.

The trials of a causal therapy of climacteric ills with oophorin and the like must be regarded as a failure, in the main. Still, it may be tried; but when the use of a hundred tablets has brought no satisfactory results, it should be abandoned.

The putting on of much fat that is apt to take place at the menopause can be combated with a reduction of the calories in the food and diligent exercise in the open air. Cures with thyroidin can not be considered as undangerous and demand at least a constant watching over the heart.

Of local symptoms, it is local hemorrhages that have the most interest for the physician. These may come from a big, hard uterus (chronic metropathia) as well as from a small, flabby one. But they can also be the first preadmonition of a developing uterine cancer, and this of course is of the greatest importance; and at this time it is usually cancer of the uterine body.

To exclude from this bleeding, diagnostically, the malignant basis, it is necessary not only to make a bimanual palpation, but an examination of a specimen abrasion is absolutely indispensable. If the microscopic examination shows that there is no carcinoma in the abraded specimen, then much has been accomplished already in many of these climacteric hemorrhages, for curettage is all that is necessary here. But, if hemorrhage does occur again, then we may try fluid extract of hydrastic canadensis, 20 to 30 drops three times daily [hydrastinine is above all drugs the remedy of choice in these uterine oozings.—Ed.] or stypticin, 0.05 the same way, or gelatin in the form of puddings.

But it is not rare that simple climacteric uterine hemorrhages become dangerous to life and resort must be had at last to extirpation of the womb. Recently it has seemed that the x-ray treatment of climacteric uterine bleeding may make that operation unnecessary. But before this treatment is undertaken a specimen abrasion must first be had for a microscopic examination, in order to exclude the existence of carcinoma.

Next to the uterine bleeding it is senile colpitis that brings climacteric women to the phsyician. The patients complain of discharges, and burning and itching about the genitals. There may be also a genuine pruritus vulvæ, in which case we have to look for the existence of diabetes. Meantime we may get good service from ablutions and baths, to which we may profitably add wheat-bran, and also from flushings with purified wood-vinegar, one tablespoonful to a quart of lukewarm water.—*Therapie der Gegenwart*, 1912, page 326.

LIME SALTS FOR ASTHMA

Curt Kayser (*Therapeutische Monatshefte*, 1912, March) says that the treatment of asthma hitherto has practically been limited to the treatment of the paroxysms and that the removal of the underlying causes has not yet been successful, in spite of the many attempts made in various directions.

Concerning the many theories aiming to explain the origin of bronchial asthma, the author says that this disease most probably is a spasm of the bronchial muscles. Another hypothesis worthy of consideration is that which considers asthma as a secretory neurosis, possibly as a kind of urticaria of the bronchial mucous membrane. The author believes that both theories might very well depend upon similar fundamental changes in the tissues.

In accordance with these theories, we must demand of a treatment that it shall be capable of reducing the irritability of the affected nervous territory and must be able to influence urticarial conditions. Such action may be attributed to the lime salts.

The author studied this action first of all in a case of hay-fever, in which the administration of calcium chloride was followed by excellent results. Thus encouraged, fifteen patients afflicted with bronchial asthma were treated by the internal administration of the calcium salt, with satisfactory results in thirteen, while two were not influenced. In the majority the attacks of asthma diminished after the administration of a 5-percent solution of calcium chloride for three or four days. Sometimes they did not return for several months. The effect became apparent in almost every instance, beginning with the third day of the treatment. The course should extend over a week. The favorite prescription was a solution of 40 Grams of calcium chloride in 800 Grams of sweetened water, given in doses of a tablespoonful every two hours, in milk. The author did not observe any injurious effects from this treatment.

LOCAL USE OF MAGNESIUM SULPHATE

Dr. Harry L. Fifield reported to the Connecticut Homeopathic Society his experiences with local applications of magnesium sulphate, either hot or cold. (Reviewed in *North American Journal of Homeopathy*, August, 1912.) He has seen excellent results follow these applications in orchitis, erysipelas, mastitis, gonorrhea, inflammatory conditions of the female genital organs, boils, carbuncles, besides many other inflammatory conditions.

The solution is prepared by dissolving two pounds of epsom salt in a gallon of hot water. When the mixture has cooled it is filtered through cotton. When applying magnesium-sulphate solution, the nurse is instructed to take twelve to fifteen thicknesses of gauze that will cover the area involved; if the face is the affected part, holes are cut for the eyes and nose. The gauze is then saturated and applied. A covering of oilsilk or waxed paper may be laid on to retain the moisture. This dressing may have to be renewed even as often as every ten minutes, if necessary, but only twice a day when the parts are bathed with sterile water.

MISCELLANEOUS ARTICLES

Legislative Attacks Upon the Physician

In preceding numbers of Clinical Medicine we have called attention to the efforts being made to secure the passage of bills by our national Congress and by different state legislatures which would inhibit the physician in the practice of his profession. Never in the history of medicine in this country have so many efforts been made to hamper the doctor in his work. That you may be in touch with the situation and fully alive to its importance, we present herewith a brief digest of some important legislation now pending or recently introduced and disposed of.

The Proposed National Antinarcotic Bill

In the February number of this journal we discussed the Harrison Antinarcotic Bill, as finally revised at the meeting of the National Drug Trades Conference held in Washington in January. (See pp. 166–168.) This bill was found defective by legal authorities, from a constitutional point of view, and was finally completely redrafted by the executive committee of the Drug Conference, which Conference met again in Washington, April 10–11. Upon this occasion the revised bill was gone over with great care and it will soon be reintroduced by Representative Francis Burton Harrison, of New York. While drastic in some respects, and while it places considerable burdens upon the medical profession, as upon all branches of the trade, the bill, in the main, seems to us a most worthy one, well deserving the support of every physician in the country. Its provisions, as affecting the doctor, dentist, and veterinarian, are as follows:

1. Every doctor, dentist or veterinarian will be required to take out a license, through his local collector of internal revenue, this permitting him to handle any narcotic drugs necessary in his practice. He will pay an annual license-fee of one dollar. Unlicensed persons may not prescribe, dispense or give away any of these remedies.

2. In ordering his supplies of any of the narcotic drugs (including opium and coca leaves, their salts, derivatives and preparations—among them morphine, codeine, heroin, cocaine, and all tablets, pills, elixirs, mixtures, and other substances containing them), except for a few minor exceptions, he will be compelled to use a properly recorded government order-blank, serially numbered and made in duplicate. One part of this blank will be sent with his order to the dealer from whom he secures his supplies, the other part preserved as a voucher for at least two years. No manufacturer or dealer may supply him or any other dealer, large or small, except when the order is made on this blank.

3. Upon demand of the Commissioner of Internal Revenue, the doctor (or other "retailer") may be required to make a report (on blanks supplied by the Government for that purpose) of the quantity and source of his purchases of these drugs.

4. Throughout this bill doctors, dentists, and veterinarians are treated and classified as "retailers," in exactly the same way as the retail druggist.

5. Any person disposing of, or procuring, or having in his possession any narcotic drugs, except as provided by this law, will be subject to heavy fine or imprisonment, or both.

The intent of the measure and the details are essentially the same as already described in the article in our February issue, to which we refer you. There is great probability that the bill will become a law during this session of Congress.

During the discussion of this bill most of the representatives of the different branches of the trade showed every courtesy and frankly evidenced their desire to be absolutely fair to those interesting themselves especially in the peculiar welfare of the medical profession. However, there was one exception. The attorney of the National Association of Retail Druggists, Mr. Frerichs of Cincinnati, made the statement that the dispensing doctor was in large degree responsible for the improper use and sale of the narcotics among the laity, and this gentleman also made a strenuous effort to have this bill so modified as to debar physicians from purchasing these drugs except on prescription or through the retail pharmacist. His animus toward physicians who dispense was strongly expressed. He undoubtedly represents an attitude which is very common among retail druggists, and which explains the horde of antidispensing bills being introduced in different state legislatures.

The Kansas Pharmacy Bill

In our March issue (see page 275) we called attention to certain dangers in the new Kansas pharmacy law, which among other things required every physician to write a prescription for any medicine he might supply, numbering this prescription to correspond to a number upon the retainer for the medicine and keeping his prescriptions on file; it also provided that the dispensing doctor's supply of drugs was to be subject to inspection by the state board of pharmacy. As we pointed out, this prescription feature subjected the doctor to onerous supervision. (Turn back to the March number and read the details.) We sent copies of this article, with a personal letter, to a number of medical men in Kansas—and none too quick, as the bill had already passed a second reading and been favorably recommended by the legislative committee. Prior to its passage the prescription feature was stricken out.

The following excerpt from a letter written by a prominent Kansas physician, anent this measure, is enlightening:

> This afternoon I was introduced to a gentleman representing the state pharmaceutical association. He wanted to talk with me about this bill.
>
> I said: "You will not claim that you are doing this for the benefit of the 'dear people'?" He admitted that he was not. I then said: "What have you up your sleeve with this bill, by which you druggists purpose to so control the doctor that every time he fills a bottle with medicine he must write out the prescription and put it on file for some official inspection?"
>
> His reply was: "Well, we hope that with this bill in force the doctor will quit furnishing medicines, and will send his prescriptions to the drugstore to be filled."
>
> *This is the joker.* This is the pith of this bill. The druggist plans that when a patient comes to the doctor's office he will find his physician so corralled by the druggist across the corner that he must or would better write him a prescription and send him to the druggist.
>
> For this medicine he may charge a price often as high as the doctor asks for both medicines and professional services, and for which he expects payment in cash.

We regret that we lack space to print all this correspondence, besides a number of other letters received from other Kansas physicians, including some prominent officials. One man—he is "high," at least in his own estimation—insinuated that our reasons for "butting in" on the Kansas situation were unworthy ones; while a prominent pharmacist holding an official position threatened us with reprisal!

One word more from our friend just quoted. In a later communication he added:

> The gentleman who admitted the object of the bill also stated that this was a national movement—that it would be made first in Kansas, then in all other states. It is well to get on to their plans. Please omit my name and address—but print what you wish.

That this is, indeed, a national movement, the horde of bills introduced in other states intended to hamper the physician is evidence enough. For instance:

The Indiana Antinarcotic Bill

On page 209 of the March number of CLINICAL MEDICINE we referred to the proposed antinarcotic bill in Indiana, which was so astutely framed as practically to prohibit the physician from dispensing in his practice any opium, morphine, codeine, heroin, and cocaine. He could not legally administer a hypodermatic dose of morphine or put a drop of cocaine in a patient's eye without first writing a prescription.

Happily the physicians of Indiana were quickly aroused to the danger, and representatives of the state medical society, the state board of health, and other medical organizations—men like Wishard, Hurty, and Barnard—grasped the situation immediately and cooperated with the associations of the veterinarians, dentists, and other interested persons to demand a proper modification of the measure. *The Journal of the Indiana State Medical Association* also called attention to the "joker" in this bill, and as finally passed proper exceptions were made for the medical profession.

The Illinois Misbranding Bill

This bill was introduced simultaneously in the House and the Senate. It has already been referred by us as House Bill 210. (See page 363.) The general intent of the bill is excellent. It was submitted from the office of the State Food and Dairy Commission, but it illustrates again the varied and devious forms in which this "joker" is made to bob up in the most unexpected places.

Section 9 of this bill, in which every Illinois physician is interested, reads in part as follows:

> No person, firm or corporation shall sell, furnish or give away any cocaine, heroin, alpha or beta eucaine, opium, morphine, chloral hydrate, or any salt or compound of any of the foregoing substances, or any preparation or compound containing any of the foregoing substances, whether salts or compounds, except upon the original written order or prescription of a lawfully authorized practitioner of medicine, dentistry or veterinary medicine, which order or prescription shall be dated and shall contain the name of the person for whom prescribed, or if ordered by a practitioner of veterinary medicine, shall state the kind of animal for whom ordered, and shall be signed by the person giving the prescription or order. Such written order or prescription shall be permanently retained on file by the person, firm, or corporation who shall compound or dispense the article ordered or prescribed, and it shall not be recompounded or dispensed a second time except upon the written order of the original prescriber for each and every compounding or dispensing.

There is more to this section, including an exception for preparations "containing not more than two grains of opium or not more than one-eighth grain of morphine, or not more than two grains of chloral hydrate, or not more than one-sixteenth grain of cocaine in one fluid ounce, or, if a solid preparation, in one avoirdupois ounce."

In spite of the obscurity of the wording it becomes apparent that it would be illegal for the physician to give to any patient any mixture, pill, tablet, or even hypodermic injection containing any of the named narcotics without presenting "a written order or prescription" to some person, presumably a registered pharmacist, who alone, besides himself, is at present legally authorized to dispense these remedies. In lieu of this, it might be interpreted to require the doctor to write a prescription every time he dispensed a narcotic drug.

The same objections obtain against this bill as against the Indiana measure. It is to be hoped that the physicians of this state will emulate their Indiana neighbors in energy of action.

Two Iowa Bills

A number of bills have been introduced in the Iowa legislature which would harmfully affect the physicians of that state. For example, the Carson Bill (House File 538). This bill provides that the physician must be a registered pharmacist in order to be permitted to compound and dispense medicines. Exceptions are made for "emergencies" and in the case of physicians who live more than three miles from a pharmacy. The latter (that is, the doctor remote from the drugstore) must make a record of all medicine dispensed by himself, no matter for what purpose or in what quantities; and he must even make a record of the ingredients and the quantities of each drug in every prescription.

Another important Iowa bill, which purports to "supervise the sale of patent and proprietary remedies" (House File 690), practically would legislate out of existence in Iowa all remedies except those contained in the United States Pharmacopeia and in the National Formulary.

A "proprietary-medicine commission" is provided for in this bill; and this body would have complete control of the sale of all unofficial drugs, including their labels, literature, composition, and so on, with power to exclude any or all from the state. Also an annual inspection fee of $25.00 is to be charged for each nonofficial preparation!

Many large manufacturing houses have hundreds, and in some instances thousands, of nonofficial preparations, used mainly by the medical profession. The provisions of the bill would be prohibitive for these preparations. The effect would be to arrest pharmaceutic progress (the leading pharmaceutic houses would be taxed from $10,000 to $100,000 annually!), and to destroy the therapeutic freedom of the physician, although on the face of the bill he is left free to prescribe or dispense what he wishes. This bill reached the third reading before it was finally suppressed!

Other Pending Bills

We have called attention to some of the legislation affecting your interests in the middle West. Exactly the same condition prevails all over the country. In fact, there are so many bills of a questionable character now pending, and these are in such a chaotic state, that it is impossible to give an accurate digest of them in these pages. For instance, *seventeen* pharmacy bills have been introduced in the Pennsylvania legislature. Some of these are framed in such a way as to injure the doctor—especially the dispensing doctor—if they should be passed. In all probability, they will be condensed into a single measure, and this the physicians of that state should scrutinize most carefully for any possible "jokers."

We have already referred to the peculiar Texas bill, which endeavored to prohibit physicians in towns of 3000 or more population from dispensing personally any narcotic drugs.

A dangerous bill has been introduced in Rhode Island. (House Bill 352.) It provides that no person not a registered pharmacist shall sell or dispose of any prescription, preparation or compound, for either external or internal use, containing any ethyl-alcohol, morphine, opium, phenol, cocaine, heroin, etc. This would directly debar the dispensing doctor from carrying a large and important class of emergency remedies essential for successful practice.

We also hear of bills, that are being promoted in Oklahoma, California, Missouri, New York, and other states, which intimately concern the medical profession, *very many* of them directly aimed at the men who dispense their own drugs.

That this is a national movement, as indicated in the correspondence with our Kansas friend alluded to before, there can not be the slightest doubt.

There is a determined effort to make the dispensing doctor the "goat," to hold him responsible for the use of impure and unreliable drugs, to charge him with ignorance and incompetence, to foster the feeling that very often he is immoral, pandering to the appetites of drug-fiends and other weak or vicious individuals.

That there is commercial method in this legislative madness hardly needs saying—it is so palpable. To submit such a wholesale indictment of practically the entire body of country practitioners, as well as of a strong and respectable minority of able city physicians, and to attempt to crystallize this into repressive legislation, is to place a stigma upon the medical profession that it will not bear, and which it only needs to understand to oppose with overwhelming force.

Our attitude toward narcotic abuses is well known. We are heartily in favor of every clean, straightforward, honest effort to wipe out the hellish traffic in habit-forming drugs; but we are unalterably opposed to all proposed laws that are a cloak for insidious efforts to undo the dispensing physician and to add to the economic burden of the public, which latter, ultimately, "foots the bill."

There are undoubtedly dispensing physicians who are using their positions to traffic in habit-forming drugs. With these men we have absolutely no sympathy. They should be ferreted out and driven from the medical profession; and it is the duty of all clean men in the profession to see that this is done. But the number of dispensing physicians of this class is very small when compared with the great mass of those who are doing able, earnest, conscientious work for the mitigation of human suffering.

This article is not written to antagonize the retail drug trade, with which our relation are and have been most pleasant. The average druggist is a square, honorable man, concerned most in making his business a success. We do not believe that the retail pharmacist is generally a party to this cabal.

What we desire to do *now* is to wake up the medical profession to an understanding of the situation. If the doctor sits still and allows himself to be vilified and "controlled" by all kinds of fool legislation, he may as well surrender his right of private judgment and conduct his professional affairs as an annex and dependency of the druggist.

But he doesn't have to do this unless he prefers to. *The medical profession is strong enough all over this country to demand, and to get, a square deal.* Only our own inertia can make possible the passage of these iniquitous bills—and, to be frank, our opponents are counting on that very same inertia. Meanwhile these interests are active—mighty active!

Every reader of this article, if his legislature is still in session, can and should do this thing: he should write to his representatives and senators, asking to be kept in close touch with all pending pharmacy bills, all medical-practice bills, and all bills governing the dispensing or sale of narcotic drugs. Tell these representatives that you are on the lookout for "jokers"—and are prepared to fight them. Ask them to look after the interests of your profession. Interest your medical society in the matter, and see to it that this organization is ready to take up the battle for your welfare if the necessity arises.

If your legislature has happily adjourned when this reaches you, keep the matter in mind for next year. There will be a big crop of these measures in 1913–14, and some of them will be put through unless you are alive to the situation.

FRIEDMANN'S TUBERCULOSIS "CURE" CONTRASTED WITH AN AMERICAN REMEDY

In the *Deutsche Medizinische Wochenschrift* for 1903, also in the *Centralblatt fuer Bakteriologie* (originally), Vol. 34, and in the *Zeitschrift fuer Tuberkulose und Heilstaettenwesen*, Vol. IV, Dr. F. F. Friedmann described two cases of what he called spontaneous pulmonary tuberculosis in turtles (chelone corticata), one of which showed caseation and cavity formation, the other, disseminated tuberculosis with cheesy foci. From the cheesy foci he isolated tubercle bacilli that corresponded to the mammalian types, except that they grew at temperatures ranging from zero to 43° C. They showed, however, an optimum growth at 37° C. (98.3° F.), and could not be distinguished from human tubercle bacilli after having been grown at 37° C. for a few weeks.

It does not appear to have occurred to Dr. Friedmann that these turtles, which had come to him from the Berlin Zoological Gardens, and whose tuberculosis he insisted upon designating as spontaneous, had probably been infected by human phthisical sputum expectorated into their tank.

While, as already said, these socalled turtle tubercle bacilli corresponded morphologically and culturally to the mammalian, respectively human, type, they were virulent for cold-blooded animals; however, birds and small laboratory mammalian animals appeared to be resistant or immune, guinea-pigs dying only after infection with large doses.

Dr. Friedmann then attempted to immunize small and afterward large animals, and he reported on his experiments in the *Deutsche Medizinische Wochenschrift* for 1903 and 1904 and in the *Therapeutische Monatshelfte* for 1904. He claimed that the intravenous injection of his turtle tubercle bacilli was harmless both for small and large animals and that it immunized them against infection with virulent bovine and human tubercle bacilli.

Some of this work had been done in the laboratory of Sanitaetsrat Dr. Libbertz and of Professor Dr. Ruppel, two investigators of acknowledged authority. In a critical discussion of Friedmann's publication and of his claims, these men showed (*Deutsch. Med. Woch.*, 1905, pp. 139 and 182), by a number of autopsy reports on animals which had been treated ("immunized") with the socalled turtle tubercle bacilli, that the latter may give rise to acute toxic symptoms and which often ended fatally; that they may produce permanent organic lesions that impair the health of the animals and may endanger their lives; that they are not capable of producing an absolute immunity either in small or large animals against infection with virulent tubercle bacilli, since the animals acquired tuberculosis in spite of the alleged immunization, and, further, since at best the tuberculous process apparently was only retarded in those animals which were killed short of thirty days after infection.

Professor Johann Orth, to whom Friedmann had given a number of "immunized" guinea-pigs, with the request to determine whether it was possible to immunize these animals by the Friedmann method, likewise arrived at an adverse conclusion. In his report, which appeared in *Virchow's Archiv* (Beiheft), 1907, he showed that Friedmann's treatment had not been able to prevent tuberculosis after virulent infection, although it seemed to retard it slightly. In fact, he questioned the propriety of employing the term "immunization" in connection with Friedmann's work.

Of all this work only slight notice was taken in this country, *The Journal of the American Medical Association* abstracting a few of Friedmann's papers. (See *J.A.M.A.*, 1904, pp. 136, 621, 624.) The important control-work of Libbertz, Ruppel, and of Orth was not abstracted or even mentioned.

Since that time no further publications by Friedmann have appeared, and it seems that he turned to the far easier clinical experiment after having failed in his laboratory work, in which controls and autopsies interpose unbiased checks upon hasty conclusions, unless they are deliberately ignored. In spite of the adverse verdict of such authorities as Libbertz, Ruppel, Orth, and Rabinowitsch, Friedmann appears to have administered his living "turtle" tubercle bacilli to tuberculous patients and, worse, to nontuberculous children and infants. (I respectfully call the attention of the Antivivisection Society to the latter proceeding, although I fear that said Society is hardly interested, inasmuch as "only children" are concerned—not beloved cats and dogs.)

No matter how greatly the original virulence of these tubercle bacilli had been mitigated, Friedmann has no means of knowing whether it will not be restored in the human organism in the course of years; and that they do remain alive for years in the organism there is ample evidence to show. For this proceeding he was criticized severely in the Berlin Medical Society, and it forms the greatest objection to his method.

As for his results, Friedmann only could announce that his "immunized" children and infants showed no signs of scrofula or tuberculosis after one year of observation, and in addition call attention to his clinical results. Some of the latter were denied by other observers, while in no case could he prove that the favorable changes were due to his treatment. And, with it all, Friedmann's remedy is a secret one, for he has failed to publish his method of preparing it.

Let us contrast with the preceding the claims of an American physician, Dr. Karl von Ruck, of Asheville, North Carolina, for recognition by his countrymen.

When shortly after the introduction, in 1890, of Koch's old tuberculin that remedy was discredited and when it was considered little short of criminal to employ it, it was von Ruck who, in the face of all opposition, insisted that not the remedy but its improper administration was at fault.

Undisturbed by all unfavorable criticism, he worked and searched until, in 1897, he produced the watery extract of tubercle bacilli (see my paper on "Active Immunization in Tuberculosis," *Illinois Medical Journal*, August, 1911), with which he obtained better and more lasting clinical results than have been shown in any other institution in this country. (See "Reports from the Winyah Sanatorium," Asheville, N. C., published in 1907, 1909, 1911.)

Through continued and persistent investigation and effort, patient in spite of all setbacks and discouragements, taking new courage with each tiny ray of hope, Dr. von Ruck, after many failures, finally has perfected a remedy by which he not only has protected his laboratory-animals and more than seven hundred children against tuberculosis, but by which in the course of one or two months clinical results were obtained in suitable early cases of active tuberculosis, that otherwise would have required persistent treatment for six months or longer.

The clinical aspect of the immunization, respectively of the treatment, of nontuberculous and of tuberculous children was considered and reported upon by the physician in charge, Dr. C. A. Julian, of Thomasville, North Carolina, in a paper presented to the Tri-State Medical Society, at Norfolk, Virginia, February, 1913. This paper has not as yet been published, but Dr. Julian kindly has let me read it. He recorded the most gratifying improvement in his tuberculous and "suspect" children. They as well as the normal children have "lytic" blood-serum twenty months after treatment, so that they are all protected against tuberculosis infection.

And this remedy is not dangerous like Friedmann's living tubercle bacilli—as little dangerous, indeed, as is the watery extract of tubercle bacilli to which it bears a close resemblance. Nor is it a secret remedy. Just as the preparation of the watery extract was fully described in *The Therapeutic Gazette* for June, 1897, so the preparation of the new prophylactic vaccine is given in detail in the paper published in *The Medical Record* for August 31, 1912, and in the first "Report of the von Ruck Research Laboratory for Tuberculosis."

But Dr. von Ruck has done more than merely present clinical improvements or cures and to assert results. By means of the recent and latest laboratory methods, he has shown conclusively the presence of specific, antituberculous, immune substances in the blood-serum of his immunized animals, of his immunized child patients, and of his treated patients, and has shown that the blood-serum of his immunized animals and of these children is capable of dissolving tubercle bacilli in the test tube.

Children and patients were never subjected to any risk, they were not given any treatment until its harmlessness had been proven definitely by animal-experiment; and, as a matter of fact, von Ruck's prophylactic vaccine causes less reaction, less discomfort and fewer symptoms of any kind than do the vaccines for smallpox and for typhoid fever.

Dr. von Ruck is not after financial returns. He wants to have his remedy investigated and, if found meritorious, confirmed. Then he wants it made on a large scale for the benefit of every child, of every person in danger of tuberculous infection, and for the benefit of every tuberculous patient who can benefit from it; not in return for a million dollars, but without royalty, without any other recompense than the acknowledgement that he has worked well.

Shall we employ the secret remedy which contains living tubercle bacilli and costs a million, but which is "made in Germany"?

Or, shall we accede to the request of our countryman to investigate the remedy developed by him, and, if found good, shall we accept it as a gift, a preparation of which we know the exact nature?

H. J. Achard.

Chicago, Ill.

HE LIKES RITTENHOUSE'S ARTICLES

I am engaged in country practice and am particularly interested in obstetrics, making this a special part of my work. I get the worth of my money in every article in the journal from the pen of Professor Rittenhouse.

I have a fine library on obstetrics, but I consider Rittenhouse the most practical man in this branch in the United States. His articles are so full of meat, so plain and so intensely practical that a first-year medical student would have no trouble in following his advice. If he has written a book on obstetrics I most certainly want to get a copy of it. If he has not published such a book, I hope he will do so soon.

J. N. Campbell.

Stamford, Nebr.

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[Now, just supposing Dr. Rittenhouse's articles in Clinical Medicine could be amplified and added to so as to cover the practical field—giving just the obstetrical facts you want to know—how many of you would purchase copies? Encourage Dr. Rittenhouse, and see what he will do.—Ed.]

WHAT BECOMES OF PHYSICIANS' PRESCRIPTIONS?

You ask what becomes of the prescription. I can tell you of one case that may interest you. About fifteen years ago, an old physician of the same town where I lived and practiced died. Some months after he died and was buried the druggist to whom this physician had sent his prescriptions put a notice in the local paper, stating that he had this dead doctor's prescriptions on file and would be pleased to fill any of his favorite prescriptions for anybody! No one can tell the number of physicians laid away, at rest in our cemeteries, who are still practicing medicine in the way described.

It is my belief that the physicians who have been and are prescribing are giving away the practice of medicine. There is plenty of evidence that the laity are reaching out for suggestions that will relieve them from going to the physician when sick. I quit writing prescriptions more than twenty years ago, and if the profession at large would do so it would be a step in the right direction.

R. C. Hamilton.

Chicago, Ill.

THE ENCROACHING NURSE

Your article in a recent Clinic, on "Encroaching Nurses," is timely and needed. I was glad to see it. You have "hit the nail on the head." Women are extremists, emotional, excitable, and wilful, the very qualities that make for good in her God-given sphere as wife, mother, and teacher; but, perverted, they will dare to go "where angels fear to tread."

Their capacity for good or for evil is amazing, wearing the crown of womanhood, wifehood and motherhood, yes, and spinsterhood, they are the *reserve moral power of the world*—nurses in the home and everywhere—conscientious, efficient, reliable. Pushed to the front like soldiers, usurping the public places of men, their moral perceptions are weakened and mowed down by the bullets of ambition and a desire to outshine the men. Hence, the nurses you describe. Hence, the aversion to motherhood and domestic duties.

This attitude of women has been urged on by the press, the newspapers and magazines constantly harping upon what they are accomplishing in masculine fields of labor, until they already believe they are far more competent than men, could be better presidents, better officials in every position, and, as nurses, know more than the doctors—and, the pity of it is, deceive them.

No one doubts the capacity of women to do anything, from climbing the highest mountain or outdoing men in the scientific or financial field, to descending to the lowest depths of moral degradation. Indeed, women have the capacity to be angels or to be devils.

There, dear friend, you see what a train of thought one of your articles in The Clinic can set to going.

Laura M. Plantz.

Poultney, Vt.

WHAT IS THE NORMAL BLOOD PRESSURE?

The Journal of Advanced Therapeutics for March, 1912, says that different standards have been given as the norm of blood pressure, varying from 120 to 140 mm. Practical experience, however, in blood-pressure studies, in connection with methods of treatment which systematically regulate the pressure, have fixed the standard somewhat lower than former figures. Present findings indicate the normal in the adult male to range between 105 and 120 mm., above which there always are indications discernible—except in athletes—of autointoxication. In youth these are readily reducible, and in most cases to 110 mm., and may be maintained there by a correction of diet and regulated habits of exercise. In the female the standard is rather lower, practically from 95 to 110 mm.

The significance of the various degrees of blood pressure at different ages or stages of hypertension require, according to the stage or condition, relative attention as to correction of causes and conditions.

In the young adult, when the pressure is found above 120 mm., ranging between that and 140 mm., it will generally be found that the patient is indulging in too large quantities of food, particularly animal food, and that his exercise is inadequate; and indican will generally be found in considerable quantities in the urine. It is not uncommon to find in youths under twenty-five years of age a pressure of 160 mm. In these cases the impending consequences are serious unless radical changes in the habits of the individual are instituted.

SODIUM HYPOSULPHITE

Sodium hyposulphite is a white crystalline substance which, Attfield says, is prepared by heating gently together or setting aside in a warm place a mixture of a solution of sodium sulphite and a little powdered sulphur. Combination slowly takes place, and the hyposulphite is formed. When the excess of sulphur is filtered out of the solution, the latter is set aside to crystallize. The salt, so far, has been used principally in photography, to dissolve the silver off the plates after making an exposure.

Merck treats of this salt under the name of "thiosulphate of sodium," and says that it is soluble in about one part of water, but insoluble in alcohol, and that it is used in parasitic skin diseases, sore mouth, sarcina ventriculi, diarrhea, and flatulent dyspepsia, in doses of 5 to 20 grains. Incompatibles are iodine, acids, barium, lead, mercurous and silver salts, chlorates, nitrates, and oxidizers.

When taken into the mouth, sodium hyposulphite has a sulphurous saline taste, due to its being partially decomposed by the saliva. When ingested, it is more or less quickly broken up into hydrogen-sulphide gas and acid sodium sulphate. The more foul the stomach and intestines and the more fermenting and undigested food the bowels contain, the more quickly the sulphureted-hydrogen gas develops, as shown by the eructations as well as by the flatus. The salt is also a very prompt cathartic, giving the cleanest clean-out, and, owing to the sulphureted hydrogen developed, the cleanest clean-up of any one medicine the writer has ever used.

From the foregoing, its indications are quite plain. Whenever there is undigested or fermenting material in the alimentary canal, sodium hyposulphite is indicated; whenever ptomain formation is active in the stomach or bowels, "hypo" is indicated; whenever ptomain absorption starts autoinfection, "hypo" is indicated; whenever the multifarious symptoms of autoinfection from the alimentary canal are manifest (and that means 90 percent of the ills flesh is heir to), then hypo is indicated, because it cleans out, cleans up, and keeps clean, all in one medicine.

But whenever practicable, I precede it with what my patrons call my shake-up, which is six granules of 1-6 grain each of podophyllin and calomel. This dose is given at night once or twice a week as needed, to be followed just before breakfast by from 1 teaspoonful to 2 tablespoonfuls of what my lady patients call my mineral water and the men call—well, no matter what the men do call it; their virile appellation fits the case.

This saline purgative solution is made by dissolving 5 pounds of chemically pure hyposulphite of sodium in enough distilled or sterile water to make 1 gallon. Of this, the dose is, for an adult, from 1 to 1 1-2 fluid ounces. I have given the latter dose every three hours for five or six doses, without untoward effects following; it merely relieving a stubborn bowel. Sometimes it appears to be slow to act; but if you persist with good doses, say 1-2 ounce one, two or three times a day, as the case demands, success is sure. At least, it never has failed me in 300 trials.

The reason for its sometimes failing as a cathartic is, that so much of its power is used up as an antiseptic, so that its cathartic power is weakened. So, persist in continued use as suggested, together with plenty of water to drink, and it "delivers the goods."

There are some cases where this medicine has not benefited as much as I wished. This was in the case of two old men past 60 years who were suffering from the effects of imbibing too freely in years gone by in the hellish concoctions which the Missourians make across the border and sell as whisky to the Kansas drouth sufferers. They improved, but not as much as I should have liked to have them. One took to his cups again, and is no better. The other has quit, but is only slightly improved.

The taste of the preparation to some patients is disagreeable, others claim they do not dislike it. The more bad material in the stomach and bowels, the worse the taste. Now, if some wizard of the laboratory over at Ravenswood will take this salt and remodel it into a palatable and still potent medicine, it would then take its proper place among the useful and multi-result-giving drugs of our materia medica.

In mucomembranous enteritis, it is the drug of choice for the relief of this as yet little understood condition. Solutions of this salt should be clear. If a milky-like cloudiness appears, the water should first be boiled and filtered, before the "hypo" is dissolved in it.

In the last six years the writer has used more than 300 pounds of this salt in his private practice, given in doses ranging from 1-2 teaspoonful once in two days up to as much as one tablespoonful every two hours, or 2 tablespoonfuls three times a day of the solution as above described (viz., 5 pounds to the gallon). No bad effects whatsoever have followed. So, please, let this dispel any fears of the poisonous nature of the drug.

As a topical application, the writer has employed it only as a gargle in follicular tonsillitis. Here the stock-solution, made as above, was diluted with equal parts of sterile water and used as a gargle. In each case—some 12 or 14 in all—the result was very satisfactory.

The treatment was: first, a calomel and podophyllin clean-out, followed by a decided dose of the hypo; then gargle "ad lib." The buccal secretions seem to split it up and the H_2S liberated exerts its disinfectant power, dissolves the membrane, eases the pain, constringes the mucous surface of the tonsils; all of which makes toward the rapid recovery of the patient.

I have endeavored in this article to cover the ground fairly well, but if any of the "family" choose to ask any questions just write me, enclosing stamp, and I shall endeavor to answer. Let all of the "bunch" try this drug and report through The American Journal of Clinical Medicine.

W. K. Johnson.

Gas, Kan.

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[Dr. Johnson signs himself "Just a country pill-peddler." He is a good one, and "knows the game," like thousands of other country practitioners.

Sodium thiosulphate is certainly a valuable remedy, a favorite with the Eclectics, and it undoubtedly has its special therapeutic field, and one deserving of special study. However, as a purgative or laxative it can hardly be considered a success, for this purpose being far inferior (less active) to magnesium sulphate (especially when given in effervescent form), while exceedingly distasteful to most patients.

The specific indications for the drug, according to eclectic works, are: "fermentative dyspepsia, with yeasty vomiting; pallid mucous membranes, with white, pasty or dirty-white exudate upon the tongue."

The mode of action of the sulphites and hyposulphites is explained by King's "American Dispensatory" as follows: "Their efficacy is due not wholly to the base, but in part at least to their sulphurous-acid radical, which is set free in the stomach, and permeates the whole system, and that without any injury or destruction to the vital principles; though, owing to their deoxidizing qualities, their long-continued use is apt to induce edema and diseases of debility. They are supposed to act by destroying vegetable organisms when present, and by preventing the peculiar fermentation that develops zymotic phenomena; and which prevention may be due either to destruction of the fermentable material or to a modification effected in its composition."

From all of which it appears that sodium thiosulphate has its *special* field in fermentative dyspepsias, with pallid tongue coated with a dirty-white exudate. When this indication is present it often gives excellent service. But as a saline laxative it is inferior to magnesium sulphate; as an intestinal antiseptic it is inferior to the sulphocarbolates; as a systemic antiseptic it is inferior to calx sulphurata. That is our experience at least. Yet in fermentative conditions of the alimentary canal, as described, it seems to deserve all the high praise Dr. Johnson gives it.—Ed.]

SCARLET-FEVER POINTERS

The following excellent "pointers" regarding scarlet-fever—points that should be brought to the attention of the laity—are reprinted from the *Bulletin* of the Chicago Department of Health.

Scarlet-fever is a highly contagious disease.

It is one of the most dreaded diseases of childhood—chiefly because of its after-effects.

The common after-effects are inflammation of the kidneys (nephritis), heart disease, ear, gland and joint affections.

It varies greatly in severity; the severest type can be contracted from the mildest.

Sore throat and vomiting are early symptoms.

The scarlet rash appears in twelve to twenty-four hours after fever; first on the upper part of the chest.

A child with a sore throat must be regarded with suspicion—the trouble may be either scarlet-fever or diphtheria. Keep such a child out of school and away from well children until a positive diagnosis has been made.

The mild case is a greater menace to the community than the severe. It frequently passes unrecognized and is not properly isolated.

It is the height of folly to expose your child to a mild case hoping that it also may have a mild case and "get over with it." As stated before, the severest type of the disease may follow exposure to the mildest.

A scarlet-fever patient must be isolated for a period of five to eight weeks, depending on cessation of infectious discharges.

Well children living in an infected home must stay away from school, including Sunday school; in fact, they must remain at home, away from other children of the neighborhood, until released by the Health Department.

All cases or suspected cases must be reported to the Health Department promptly and infected premises must be placarded, the red warning card appearing at front and rear entrances.

A scarlet-fever patient must not be removed without the consent of the Commissioner of Health.

Disinfection will be performed by the Health Department, free of charge. The common practice of burning sulphur candles does no good.

A scarlet-fever funeral must be held within thirty-six hours after death, and must be private.

When scarlet-fever is prevalent in a community, keep your child out of street-cars; out of theaters or other places where children assemble in considerable numbers; out of neighbors' houses; away from ailing children, especially those with sore throats or rashes.

The disease usually develops in from two to seven days after exposure.

Doctor, if you want to be a factor in the social life of your own community, why do you not get out and distribute circulars like these in your own town? In most cases your city or village government will be glad to meet the expense—but it will wait for a live man like yourself to take the initiative.

As to treatment—read carefully Dr. Candler's article, March issue. Also—there are *two* remedies of value in preventing scarlet-fever. One (and it is a dandy) is our old friend calcium sulphide. The other is a good prophylactic scarlatina bacterin. Know about it?

AN OBSTETRICAL EXPERIENCE

Owing to the peculiarities and the not very little difficulty in which I became involved in an obstetrical case a few years ago, it may be of interest to some of the younger members at least of The Clinic "family" to have a concise report given in this, the best medical, journal which comes to my office. At the time of its occurrence it did not come to my mind that the case was an uncommon one and that perhaps not one country doctor in a hundred had had an experience under similar circumstances. For this "snap" in which I was caught here differed in its additional extras from all I ever experienced in my forty years' practice.

In the early morning of a bright July day, in 1902, I was hastily summoned to wait on a lady living eight miles from town. She was a multipara, thirty-five years old, small, short in stature, and very closely built. To these parents, three children had been born before, the youngest being eight years old. When I arrived at the home of the patient, labor had been in progress more than two hours; and with "waters broken" and discharged, and the os uteri but little dilated, the indications were those of a dry, painful, and tedious birth.

At first sight of the patient, I observed she was suffering intensely. The examination had disclosed the fact that it was a normal head-presentation. But after a strenuous effort with the best of my medicines (and they were alkaloidal), to relieve the patient's suffering and prepare her for an easy and normal delivery, I found that I had made little or no progress in that direction. Seeing the general conditions grow rather worse than better, I at once prepared to use instruments to deliver the patient as speedily as was safe for the life of mother and child.

At this juncture, just as I had gotten under way with the anesthetic (chloroform), having previously arranged to use the husband as the only available assistant, he fainted and fell on the floor of the room—fortunately, without the notice of his wife. Without taking more than a moment to think what I would do, I hastily dispatched the little kitchen-girl across the highway, about thirty or forty rods, to call my married thirty-year-old son from his home to assist me. Although inexperienced in work of this kind, he could give the anesthetic under my direction, as much as was then needed, while I was busy in taking the child.

I had no time to look after patient number two on the floor further than, on the girl's return with my son, to dispatch her for Mr. B., another near neighbor, who, under my instructions, attended to the patient still lying prostrate. Owing to insufficient dilation of the os and dryness of the parts, the delivery with instruments even was difficult and tedious, yet without a ruptured perineum or bruised child. Then, after waiting a short time, I awakened the mother from her deep sleep, and in a short time she began talking and laughing, not knowing of there being in the kitchen nearby a second patient. After some inquisitiveness on the mother's part as to what had occurred during her period of unconsciousness, I presented her the 8-pound baby girl, with which, like most mothers, she was much pleased.

In looking around the room to learn more of the particulars of the occasion, it seemed, she discovered a man—not another doctor, but a farmer—sitting near the foot of her bed, when in great astonishment she exclaimed, "Sam Cannon! What are you doing here?"

The business and situation being a new one to my son, he made no reply. I had not yet informed her as to how much assistance her husband had rendered in the ordeal, nor that he was then sitting on a chair in the kitchen looking as though he was much embarrassed about something.

The news of the irregular incidents of this case soon found their way into the public ear, whereupon the married women of the community expressed their serious disapprobation of a timid husband who would faint at such a critical time for his wife.

G. W. CANNON.

Smith Center, Kan.

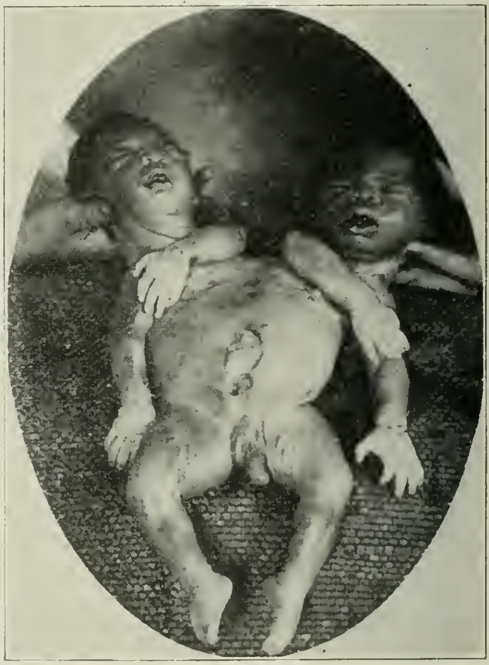
A DOUBLE MONSTROSITY

A Savannah correspondent, Mr. Joseph P. Watkins, has sent us the accompanying photographs of a double monster, said to be born near Eastman, Georgia. He supplies the following description:

> A freak of nature, and the only similar case known to physicians, with the possible exception of the celebrated Siamese twins, is a boy baby with practically two bodies, joined from the middle of the trunk downward, with two heads and four arms, but one pair of legs and one groin, born recently in the vicinity of Eastman. The head and limbs are all perfectly formed and developed.
>
> The child was born to Eli and Hattie Gardner, colored, on the farm of C. H. Peacock, six miles from Eastman. It was necessary to sacrifice either the mother or the child, and, realizing that the baby would probably not live anyway, it was determined to save the woman. The mother was attended by Drs. J. A. Busch and A. L. Wilkins. S. G. Goolsby administered the anesthetic.
>
> The physicians believe it would have been possible to have kept the child alive, at least for a time, but the death of the mother would have been the certain result. All the organs of the child are normally developed. The two bodies are joined together below the shoulder, merging into one body at the groin. There is apparently one stomach and intestinal arrangement, but separate heart and lungs and other organs for each twin.
>
> Dr. Busch says it is the most remarkable specimen that has ever come under his professional notice. He has preserved the body for further scientific study and observation.
>
> Other children born to the same mother and father have invariably been normal.

This monstrosity is what could technically be called a case of *ischio-thoracopagus tetrabrachius*. While, of course, these monstrosities are not common, perhaps they are more frequent than our correspondent seems to imagine. As a matter of fact, practically every malformation of the human body which is capable of forming has occurred at some time and been reported somewhere in medical literature.

For instance, if the reader will refer to the article on "Teratology" in the "Reference Handbook of the Medical Sciences," he will see a picture of a case of *ischio-thoracopagus tetrabrachius* in which the deformity is practically identical with that shown in the accompanying picture. We refer to the photograph of the Tocci brothers, who were born in 1877 and were still alive when this article was prepared.



DOUBLE MONSTER—ISCHIO-THORACOPAGUS, ANTERIOR VIEW

Several other cases of *ischio-thoracopagus tetrabrachius* have been reported. For instance, Rita-Christina, born in 1829, and Marie-Rose Drouin, born in 1878. These survived eight and seventeen months respectively.

In cases of this kind, the thoracic viscera are usually double or partially double, although the two hearts may be enclosed within a common pericardial sac. The digestive tube is in duplicate until toward its lower end, the two stomachs being arranged with pylori converging. The bladder is usually single, but in the case of females there are likely to be two uteri. The external genitals and anus are single.

If other readers can give definite reports of monstrosities, with illustrations, we shall be glad to receive them.

A MEDICAL MISSIONARY WANTED IN PORTUGUESE EAST AFRICA

An appeal comes from the American Board of Commissioners of Foreign Missions for a well-educated physician to go to Beira, Portuguese East Africa.

This is a little town having a European population of about one thousand people, and it has tributary to it a stretch of some three-hundred miles, extending from the Indian Ocean to the border of Rhodesia, in which there are about one million natives. In this great area not a single missionary, of any kind, is at work. It is the purpose of the Board to provide its missionaries with a gasolin-launch with which they may tour the two important rivers which flow into the harbor at Beira.

The attitude of the Portuguese government was formerly unfriendly to missionary work in this field, but since Portugal has become a republic conditions have changed, and Protestant missionaries are now said to be welcome.

It is the intention to send an ordained missionary and a medical missionary into this field. Both of these missionaries would first be sent to Lisbon for a sufficient time to acquire a working knowledge of the Portuguese language. While the climate is trying, as is the case all along the east coast, Beira is said not to be especially unhealthy.

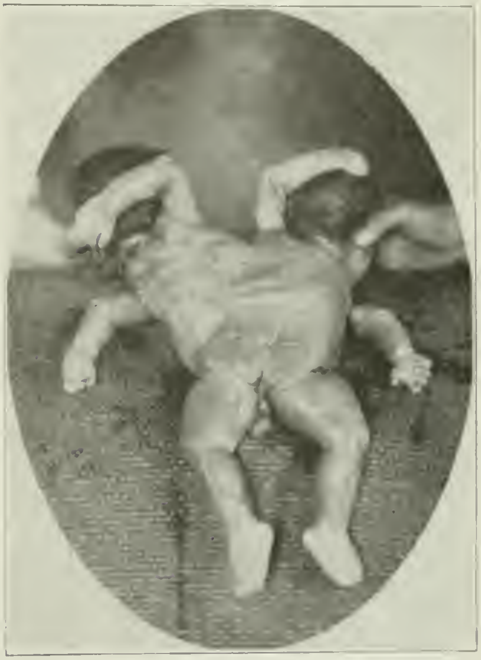
Here is a splendid opportunity for a well-educated young medical man who has the physique and the devotion. The Board desires to secure a college man who is also a graduate of a high-grade medical school, and prefers one who has had considerable experience. It will be useless for indifferently prepared doctors to apply. The selected man will be sent to London for a special course in tropical medicine.

Anyone interested should communicate with Mr. Wilbert B. Smith, 600 Lexington Ave., New York City.

WHAT IS THE PRICE OF VACCINATION?

If the editorial door of Clinical Medicine is not slammed on the vaccination question, permit me a little more space. There is no denying that there is more or less protection in vaccination against smallpox, and also in the many newer forms of the practice, but, as there is no effect without a cause, or nothing without a price, what is the price of that protection? This is the vital question.

Dr. J. Compton Burnett, of London, once put it about this way: If you are in a state of health and are vaccinated, the protection must lie in the departure from the normal; therefore, when you regain your health (if you do), you are no longer protected. So, if it is wise to sacrifice health in order to avoid a remotely possible disease, vaccination is a good thing, just as good as it is to cut out the healthy appendix to guard against the possibility of appendicitis, or have a tooth pulled to avoid toothache.



Double Monster—Ischio-Thoracopagus, Posterior View

Now as to those Japanese figures in my last letter which Dr. Slee contradicts: here are some more, taken from a pamphlet published by Major Thomas Boudren, of Bridgeport, Connecticut, who got them from the Japanese Embassy at London. I give them condensed.

Vaccination was made compulsory in that country in 1874, and was made stricter in 1876, also in 1885, and again in 1909. During the period from 1885 to 1908 inclusive there were 285,721 cases of smallpox, with 77,512 deaths. So much for the protection. Now as to the price. During this period, according to Dr. Kitasato, at the Sixth International Congress on Tuberculosis, that disease (tuberculosis) has increased to an alarming extent in Japan. In prevaccination days it was rare. So has diphtheria increased. Cancer was not mentioned, but in compulsorily vaccinated countries it has increased in the past few decades about 700 percent—and is still increasing. No one can prove that this is the price for the vaccine protection, but the increase in these and many other diseases seem to go hand in hand with the vaccines.

I could easily rip up Dr. Slee's long communication (to my own satisfaction, at least), but fear to tax the good nature of the genial men who run Clinical Medicine.

E. P. Anshutz.

Philadelphia, Pa.

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[Dr. Anshutz's argument, á la Burnett, that protection against smallpox through vaccination is secured at the expense of health, is ingenious, but unsupported by evidence. Immunity may be natural or acquired. Some people are *naturally* immune to smallpox. Did *they* somehow sacrifice health to secure their immunity? Vaccination is simply an artificial method of stimulating the powers of the body to resist a specific disease, and properly performed it is practically free from danger, as Dr. Slee has shown.

Frankly, the Japanese statistics aren't worth much. As Dr. Slee has already pointed out, the enforcement of the vaccination laws in Japan has been notoriously lax, and what evidence we have seems to show that those who had smallpox in the epidemics cited were principally those who had not been vaccinated at all, or at least unsuccessfully. If Dr. Anshutz can submit definite evidence that people known to have been successfully vaccinated subsequently contracted smallpox in any considerable number this will be worth something in support of his contention.

His statements concerning the increase of tuberculosis and cancer in Japan and other countries is equally worthless. It is another example of *post hoc propter hoc* reasoning. Let him first prove that these diseases have increased among the vaccinated while they have been stationary in the nonvaccinated.

The fact is that all the socalled "diseases of civilization" have increased in countries rapidly adjusting themselves to modern and more or less artificial conditions. But meanwhile in America and Europe, where vaccination is most rigidly enforced, tuberculosis is markedly *decreasing*. Is that because of vaccination, or in spite of it? The fact is, as Dr. Anshutz himself admits, "no one can prove that this [increase in cancer and consumption] is the price for the vaccine protection."

We like the good spirit that Dr. Anshutz has shown in this discussion. He is far too good a man to cling to the antivaccination delusion, and sometimes we hope to have him on our side of the fence. As a consistent homeopathist, believing in the law of similars, he ought to be a good immunologist.—Ed.]

VACCINATION: A REPLY TO ITS OPPONENTS

I have read the discussion, in the March number of this journal (p. 257 et seq.), on "What Is the Truth About Vaccination?" and wish to offer some comments. While it is true that there must of necessity be difference of opinion on many subjects, it seems to me that no intelligent person, especially an observant medical practitioner with a mind open to the truth, can do otherwise than accept as thoroughly established the fact that vaccination is a preventive of smallpox. Certainly, a casual observance of the statistics available on the subject will, or they should, convince any reasonable man of the efficacy of vaccination as a means of stamping out the dread disease of smallpox, and the statistics presented by Dr. Richard Slee are sufficiently convincing, in my estimation at least.

I have had some little experience in this matter, having been through an epidemic of smallpox. And it was the Simon pure, genuine, unadulterated smallpox, with no modern modifications. Some confluent cases came under my notice, and the faces of some of the victims were disfigured with the swelling and eruption until they were unrecognizable; all semblance to the human features being gone.

At the time I was city physician and had under my especial care two districts; one occupied by German residents, the other by Irish. Sanitation, so far as cleanliness was concerned, was in full force; the residences were clean. Tenement houses were as clean as were the houses occupied by the better classes. Yet, the smallpox followed the line of German occupation for six miles or more. I would at times have three cases of smallpox in one little room, in one instance there being as many as five. There were hundreds of cases of the disease.

I was among the sick daily, taking careful notice of the progress of the disease, even examining the mouth and throat for the eruption. I had not for myself the slightest fear of the disease and went through the epidemic unscathed; for I was thoroughly protected by vaccination; but not one of the victims who came under my notice showed any mark of vaccination. Was it accident, or was it not rather a circumstance to strengthen ones belief in the protective power of vaccination?

The question may arise as to how it happened that this smallpox epidemic was confined almost exclusively to the Germans, when the Germans in Europe are universally vaccinated; how this can serve as an argument in favor of vaccination. In explanation, I will say that the epidemic occurred only among the unvaccinated German-Americans, those born and raised in this country. In Germany, compulsory vaccination is the law, while in my state no such law then existed. Furthermore, this epidemic continued until at last the authorities made vaccination compulsory and, with the aid of the police, all school-children were forced to submit to it. Thereupon the epidemic died out because of lack of human material.

I have stated that I also had charge of an Irish district at the same time. Conditions as to sanitation were the very antithesis of what obtained among the German residents. That entire district was filthy. There was no cleanliness anywhere; the people were careless of themselves; the tenements were simply vile; some were so unspeakably foul and reeking with filth that I refused to enter until some little improvement had been ordered by our board of health. Nevertheless, not one single case of smallpox occurred among the Irish contingent in that whole district. So far as I could ascertain, every individual—man, woman, child—showed marks of vaccination. Was this accidental or was it a scientific demonstration of an established truth, that vaccination certainly does protect from smallpox?

"Vaccination is disgusting," is it? I wonder whether our medical friend ever saw a genuine confluent case of smallpox. I, assuredly, know of nothing more disgusting: the odor is sickening—the appearance is frightful—all semblance to humanity is gone—and the patient is shunned by all, none will even approach the house.

Now, with all due regard for the opinion of the writer opposing vaccination, I must say that it seems strange, indeed, that—in the light of scientific research of today, as made clear by the open columns of the medical press—for these long forty years he can remain an avowed opponent of protective vaccination. It would seem that blind prejudice must have usurped open-minded observation.

Certainly, if anything in this world of ours has been proven beyond all cavil, it is, that vaccination is preventive of smallpox. Most surely my own experience, as herein detailed, is proof in support of it. For, how else can the absolute immunity of the vaccinated community be accounted for, as against the epidemic that raged among the community of unvaccinated? And for squares and squares in the town the line of demarcation was the middle of the dividing street: the one class on one side, the other class on the other. Very strange, if this occurrence was only a coincidence!

JAS. L. NEAVE.

Dresden, O.

PURE AIR

I have a good thing, and I want to share it.

All night long I am permitted to breathe a perfect atmosphere, and, yet, I am shut in completely from drafts. How is this accomplished?

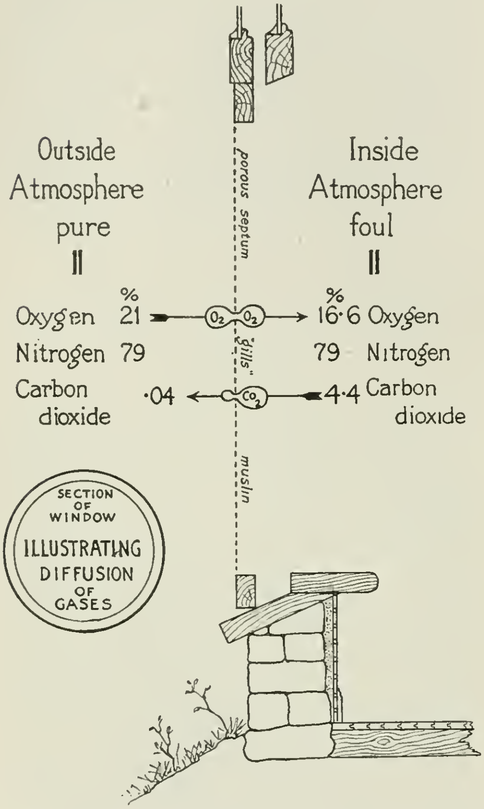
In the early fall, when I wished to conserve the heat of the house, I closed all openings to keep it comfortably warm. If this were all I had done, I had yet shut out God's pure, free air. However, by a subtle arrangement I have succeeded in keeping the house comfortable and at the same time I have a perfect atmosphere to breathe.

You ask, "What is this subtle arrangement?" Subtle is a better word than mysterious; but such words necessarily are brought in because of an invisible process connected with the arrangement, which process I am endeavoring to reveal to the eye of the understanding. Be patient, and we will detail the arrangement, which, by the way, is exactly analogous to the process by which the blood (red blood-corpuscles) are charged with oxygen from each breath of air taken into the lungs.

Each bedroom of my house has the lower half of one window fitted with a muslin-covered frame just outside the lower sash. We call them "gills," because of their similarity of purpose with the gills of a fish—supplying oxygen.

These "gills" are brought into operation by raising the lower window-sash. By this arrangement the two atmospheres—the outside pure air and the inside vitiated air—are brought so closely together that, for the purpose of the diffusion of oxygen and carbon-dioxide gases, the contact is complete, and through the meshes of the muslin septum gas diffusion is very rapid. "Gases are to each other as a vacuum."

In this process of interchanging of gases there is a notable conservation of heat as to the inside atmosphere. This fact has been accounted for ingeniously by Dr. Le Wald, of the Rockefeller Biological Institute, of New York City, who says: "As the gas molecules pass one another through the meshes of the cloth the outgoing molecule gives up its heat to the incoming molecule, and in this way the inside temperature is wonderfully maintained." The oxygen from the outside leaps in to supply the deficiency caused by the indwellers.



The same process goes on in our body with each breath we take. When we inbreathe, the air-tubes, terminating in blind ends, expand; the residual air in the lungs retires into these blind ends, followed in by the tidal air; the oxygen from the tidal air leaps into the residual air (as into a vacuum) and, by the same impulse, on into the blood, changing it from a purple hue to a bright-scarlet—from the venous to the arterial state. (Oxidation.) This process is almost instantaneous, and, yet, it is performed where the intercepting membrane is of so dense a structure that it will retain a pulsating stream of blood.

Surely, it is axiomatic that oxygen diffuses faster in air than in liquids.

Now, keep these two processes side by side—the blood in the body and the air in the bedroom, both kept replete with oxygen by diffusion. Take for example a house-tent (an ideal enclosure), presenting porous cloth on all sides. Outside of it the pure, free air is all around. Outside of it the great reservoir of pure, free air, while the inside air is being depleted of its oxygen and vitiated with carbon dioxide by the indwellers. But the two atmospheres are in constant close contact through the meshes of the fabric. Splendid contact for diffusion of gases. This tireless automatic process is keeping the inside atmosphere like the outside—up to its full quota (1 : 5) of oxygen by diffusion.

The atmosphere is a mixture, not a chemical compound, therefore to remove a part of the oxygen does not disintegrate it.

What a splendid precaution this would be for every house heated by hot-air furnace. In my own house, well equipped with "gills," I smell smoke and gas from a newly kindled fire, because the joints of the furnace are not gas-tight; but shortly it is all diffused out through the "gills."

How wonderful was the deliverance of my family last winter from natural-gas (methane) poisoning. An open gas-jet poured gas into the sleeping-apartments all night till 5 o'clock in the morning; still, no harm came of it. Why? Because the gas was so rapidly diffused out through the "gills" that no one spoke of the night's rest as other than a season of good reparative sleep. This confirmatory testimony was elicited from each member on the following morning without their knowing what had taken place through the night.

Doctor, is there a gas-jet loose or leaking, any sewer emanations, anything of this sort, into your house and have you closed it up effectually from the outside pure atmosphere so that disease-germs can thrive and multiply, because the oxygen can not penetrate and thus come to the rescue? You have my consent to use these cheese-cloth screens freely.

Doctor, you have patients and friends who cannot afford a house-tent (although, if it were better understood, a house-tent is a poor man's economical friend). They can afford "gills"—and what will not thorough oxidation do? It will burn up lung sewage and spoil the habitat of disease-germs.

What smells sweeter than a tent atmosphere? How can you account for the improvement in a consumptive—fever disappears, appetite increases, the bacillus tuberculosis disappearing from the sputa, they take on flesh, and all this principally because these patients subject themselves twenty-four hours out of twenty-four to a pure atmosphere (21 percent of oxygen).

This is what can be accomplished when the matter is gone into seriously.

Let us prevent tuberculosis and many another malady by seeing to it that our patients, rather our clientele, have as pure an atmosphere to breathe as is possible in each case.

JOHN F. LOCKWOOD.

Kansas City, Mo.

A CASE OF RECURRENT MANIA

During the last four weeks I have had under observation from time to time a girl twenty-six years old, afflicted with insanity. Her people claim that these attacks were brought on through diphtheria when she was eight years of age. However this may be, I think that heredity plays a role, since, upon questioning a sister with whom she lives, I elicited a history of mental aberration in at least two members of the family on the father's side. The lucid intervals have lasted from two to five years, and this fact accounts for her not being taken to an asylum, as the people are daily waiting for the return of her reason.

Her's is a mania with rapid flow of ideas and speech—a constant logorrhea that never ceases night or day—busy talking back and forth; pulling out drawers, emptying their contents when up; when in bed, continually changing position or rearranging the bedclothes and pillows. Due to the disturbance of idea-associations, we find her wandering from one topic to another. In five minutes she has mentioned a dozen different people—she is a queen, a pet, is floating with the Titanic, in fact, she, herself, is the Titanic. This intense activity, sensory and motor, is truly phenomenal. Her mania is of the happy sort—there is a marked somatic well-being, she is laughing and singing alternately.

A leading symptom in these maniacal states is exaltation of personality; at times her ravings will assume a typical grandiose character, as when she declares in an oratorical accent that she is the Virgin Mary, or even the Holy Ghost himself.

This patient is about as interesting as another one—a man—I saw many years ago. His peculiar mental ailment was that of grandeur and imperative ideas, a sort of *folie du doute*, as the French call it, his compulsory idea taking a peculiar form. Seated on the floor with three building-cubes such as children ordinarily play with, he would put these together and ask himself the question, "Why is it that one block put on the top of another block makes three blocks?" and this question he would repeat for hours at a time.

Being called upon to treat the girl patient first mentioned, I was at first at a loss how to proceed. When I first saw her, she had not slept for more than one week. I prepared a mixture of potassium bromide and chloral hydrate, but found that "horse-doses" were none too strong. In fact, with these two drugs I failed to quiet her or put her to sleep. Next I tried morphine sulphate, 1-2 grain every three hours, but that seemingly only made matters worse; she became unmanagable, grabbed a butcher's-knife and nearly decapitated a baby.

It was at this juncture that the happy thought came to me of administering hyoscine, morphine and cactin hypodermatically. Two tablets of full strength in one dose brought her down. In less than ten minutes we had her snoring serenely on her back, and she slept soundly for nine hours. The effect of this rest was surely marvelous, for her mental horizon seemed clear for hours, her logorrhea ceased, and she partook of food.

Of course, the next day she again resumed her exalted position and her wanderings began anew. It has thus become necessary to inject every other night two of these tablets to induce sleep and partly restore her mental equilibrium.

After these injections she takes more nourishment, which we know is an important factor in these states of mania. The patient is always overworked and underfed. The loss of nervous energy is great indeed. If she proceeds as well as the last week, I think she will soon have another lucid interval.

H. G. HENRIKSEN.

New Market, Minn.

[We referred Dr. Henriksen's report of this interesting case to Dr. James G. Kiernan, the well-known alienist of this city, who gives us the following helpful comment:

"The condition described is recurrent mania, of which condition Dr. Henriksen has drawn an excellent clinical picture differentiating it from the popular but erroneous medical idea of mania (simple excitement, obsessions or impulses). The cerebral condition in emotional exaltation is identical with the euphoria (good feeling) of morphine whence the contraindication observed by Dr. Henriksen.

"The treatment of the insane interval, while needed to prevent exhaustion, is less important than the prophylactic treatment of the interval precedent to the attack. The symptoms indicating the onset should be observed and treated. While the recurrent tendency is an expression generally of inherent congenital vice of constitution, still this tendency before becoming rhythmically fastened on the constitution is often an instability which, being relieved of strain, fails to pass over into morbid states."

The method of treatment pursued by Dr. Henriksen is interesting, but it is questionable if the prolonged daily use of the hyoscine-morphine would be advisable. Really the patient should be sequestered in an institution.—Ed.]

THE ALLEGED DEATH FROM STOVAINE SPINAL ANESTHESIA

Readers of Clinical Medicine will remember that in Dr. Kelley's report of the Clinical Congress of the Surgeons of North America allusion was made to a death under spinal anesthesia, occurring in the clinic of Dr. William Seaman Bainbridge. Inasmuch as some injustice has been done, we reprint herewith a full report of this case, as given by Dr. Bainbridge as an addendum to his original paper on spinal analgesia, read at the A. M. A. meeting last June. He says:

> During the Clinical Congress of Surgeons of North America, held in New York City in November, 1912, a patient, on my service at the New York Polyclinic Hospital, died after a lumbar subarachnoid injection of stovaine, preparatory to the performance of an operation for hernia.
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> History: P. H., Irish, male, age given as 50 years; probably 60 or more; chronic alcoholic. Came to my clinic at the New York Polyclinic Medical School and Hospital October 18, 1912, seeking relief for a condition which proved, upon examination, to be right inguinal hernia, at times irreducible, and causing great suffering. The man gave a history of having felt a sharp, tearing pain in the right groin while operating a taxicab about three months previous to coming to the clinic. Since that time he had been to several dispensaries in a vain search for relief. He had used a truss without success. Failing to obtain relief by other measures, he wished to be operated upon at once.
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> From the general physical examination, the patient was found to be in a very bad condition, as the result of the prolonged excessive use of alcoholic stimulants. The following conditions were present: general atheroma of the arteries; renal insufficiency due to chronic Bright's disease; marked enlargement of the liver; myocarditis, with systolic murmur at the base; emphysema; râles over the bases of both lungs. A history of chronic gastritis was also elicited.
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> The patient's general condition was such that immediate operation was no deemed advisable. He was told, accordingly, to abstain from the use of intoxicants, and to refrain from lifting or straining; he was put upon a diet, tonics, etc., and was kept under observation for about three weeks. Despite the fact that only slight improvement followed this regimen, he insisted upon operation. He was then admitted to the hospital on November 14, and prepared for operation the next day.
>
> Because of the man's general condition, inhalation-anesthesia was considered contraindicated. He was prepared, accordingly, for operation under spinal analgesia. Before the members of the Congress of Surgeons present, I injected into the cauda equina twenty-six minims of a one-percent solution of stovaine. The patient, who presented no symptoms differing from those of the average subject during the spinal injection, was then sent to another room to be operated upon by Dr. E. M. Foote and Dr. Claude A. Frink, of my staff, while I concluded my lecture before the Congress. The man's mind was perfectly clear, his pulse was good, there was no nausea, no cyanosis, no respiratory embarrassment—in fact, *none of the symptoms of stovaine poisoning.* He suddenly turned pale, said, "I am dying," and instantly died.
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> The case was made a Coroner's case, and an autopsy was performed the next day, with the following findings:
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> Marked edema of the brain, socalled "wet-brain"; myocarditis; atheroma of aorta; aortic insufficiency; emphysema of the lungs; chronic interstitial splenitis; chronic gastritis; chronic enteritis; and chronic interstitial nephritis. Spinal cord showed no gross lesion.
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> The Coroner's inquest was held on December 4, 1912. The jury, after listening to the testimony of the above facts and a number of experts as to the indications of death by stovaine poisoning, did not find that the man died of stovaine poisoning, but that death was caused "by pathological conditions" as above described, and all concerned were exonerated from blame.

THE PROPHYLACTIC VALUE OF VACCINES IN TYPHOID FEVER

Dr. J. Clement Clark says that, since 1903, the Springfield Hospital for the Insane in Sykesville, Maryland, each autumn cared for from ten to twenty cases of typhoid fever among patients and nurses (*Maryland Medical Journal*, 1913, January).

In June, 1911, after consultation with the state board of health, it was decided to employ antityphoid vaccination. Accordingly all patients were inoculated, both male and female, except those immune from previous attacks and those suffering from tuberculosis or diseases of the vascular system and kidneys, together with several of the physicians, nurses and employees, in all 890.

Each injection was followed by local reaction, consisting of redness and swelling of variable degree, disappearing in about twelve hours. The general reaction was slight, and consisted in malaise, headache, backache, and slight fever, like the initial symptoms of typhoid fever. In only two cases did the temperature rise to over 100° F. and these proved to be unsuspected cases of tuberculosis. The injections were made in the afternoon, the patients thus resting all night, and nearly all were ready for breakfast the next morning. The reactions after each of the three injections were the same.

Not a single case of typhoid fever developed among the inoculated during the summer and fall, although one nurse who refused vaccination, one male attendant who was employed after the vaccinations and one patient who entered the hospital after the vaccination contracted the disease, thus showing that the bacilli were somewhere around.

Early in June, 1912, all patients admitted during the year since the last vaccination of 1911 were vaccinated. In all there were 1316 inoculations among the patients and employees without a single abscess or any untoward after-effect. There has been but one case of typhoid fever in the hospital during the summer or fall of 1912, and this was in a patient who had not been vaccinated.

THE LABORATORY DIAGNOSIS OF PATERNITY

The "Red Back," i. e., *The Texas Medical Journal*, for last December contains an editorial discussion of an unusually interesting subject, namely, the diagnosis of paternity, which appears to have become possible through the experiments of Mayoral and Jimenez, reported in *La Médécine Scientifique* for February, 1912. Although these experiments do not produce final and definite results, it is readily to be seen that eventually they may be productive and that the possibility of establishing the paternity in a given case of pregnancy will be of the most far-reaching medicolegal importance.

Basing their experiments on the reaction of Elsberg in the early diagnosis of cancer, Mayoral and Jimenez sought to apply it for diagnosis in the first months of pregnancy and also for determining who is the father in any given case of pregnancy. If the principle of Elsberg's cancer reaction were applicable to pregnancy, red blood-corpuscles of the father, emulsionized with an isotonic solution of sodium chloride, injected under the skin of a pregnant woman would produce an erythematous, somewhat painful spot at the site of injection within six hours.

The experiments of the two authors named are reported to have given the following somewhat astonishing results:

1. Three pregnant women, injected with emulsionized red corpuscles from their husbands, gave a positive Elsberg reaction.
2. One of these three women, injected with erythrocytes from her husband, and at the same time with those from a stranger, gave a positive reaction with the former and a negative one with the latter.
3. Thirteen pregnant women were injected with the emulsion from males with whom they had never cohabited, and twelve of them gave negative results, while in one the reaction was doubtful.
4. Corpuscles from two husbands gave positive reactions when injected into their respective pregnant wives, but negative results in three other pregnant women whom they had never known.
5. In five nonpregnant women who had previously borne children to their husbands, there were negative results in four, and a doubtful reaction in one.

The editorial in question points out that the interest of these investigations would have been greatly accentuated if Mayoral and Jimenez had extended their inquiries to the children of the husbands whose blood induced positive reactions in their pregnant wives, and that the possibility of a practical value of their findings would have become correspondingly enhanced. Although the entire matter is still in its experimental stage and manifestly it is not as yet possible to draw any positive conclusions, these investigations are of decided interest and importance, and it is to be hoped that they will be carried on to some definite conclusion.

A STORY OF AUTHORITY, BY MULTATULI*

Hassan sold dates in the streets of Damascus. If I say that he sold them, I really mean that he did *not* sell them, for his dates were so small that nobody wanted to buy them. With sorrow and envy he saw how everyone favored the rich Aouled who lived next to him on a mat. For they live on mats in Damascus, with very high flats and no roof. The wealth of Aouled did not consist in houses, but in a garden which was very fertile, so that the dates which grew there were as big as three ordinary ones; and thus the passers-by bought the dates of Aouled, and not the dates of Hassan.

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*Multatuli means: I have suffered much.

There once came to the city a dervis who had wisdom too much and nourishment too little, at least he exchanged his knowledge for food, and now we shall see how well our Hassan fared with this barter.

"Give me to eat," ordered the dervis, "and I 'll do for you what no khalif can do: I will force the people to buy your dates, by making them large, yea, larger than the dates of Aouled. How large are those?"

"Alas, dervis! sent by Allah—I kiss your feet—the dates of Aouled—Allah give him cramps—are three times larger than ordinary dates. Come in on my mat, cross your legs, be benefited, and teach me to enlarge my dates and to compel the people to buy them."

Hassan might have asked why the so very wise dervis needed food; but, then, Hassan was never overparticular. He served his guest with cooked leather, a leftover of a stolen goat. The dervis ate till he had enough, then spoke: "Three times larger than ordinary dates are those of your neighbor . . . . . how large do you desire yours to become, oh Hassan, son of . . . . . I don't know who?"

Hassan thought over matters for a while and then said: "Allah give you children and cattle! I should like my dates to be three times larger than you can make them."

"Very well," the dervis made reply; "here is a bird which I brought with me from the far east. Just tell him that *any one of your dates is as big as three of your dates.*"

"I wish you wives and camels, oh dervis—who art odoriferous of olives—but how will it be of use to me if I tell the bird what is *not?*"

"Do as I tell you," replied the wise man: "for I am a dervis, so you should not understand me."

Hassan wished the bird long feathers and called him rook; but it was not a rook; it was a small bird that in a way resembled a raven, with loose tongue and skipping gait. The dervis brought it along from Indaloes, where it had been shipped by merchants who came over the ocean from the country where men resemble negroes, although it is a long way from Africa. Hassan named the animal rook, because he observed that anybody who is praised swells in size; also, that, on the contrary, he who needs anything of anyone shrinks in dimensions. At least this was so in . . . . . Damascus.

So it was that Hassan shrunk, and he said: "I am your slave, oh bird rook; my father was a dog . . . . . and any one of my dates is as big as three of my dates." "Excellent," said the dervis; "continue in that same way, and fear Allah." So Hassan kept on with his speech. He feared Allah, and all the while he said to the bird that his dates were large beyond possibility. And Hassan's reward for his virtue was not wanting. No three times yet had the knalif do kill all the women of his harem . . . . . no mother yet had found time to prepare her daughter for the market at Roem . . . . . Hassan had not yet met a lonesome strayed goat to keep him company on the mat, and, behold! the bird cried:

" . . . . . my father is a dog . . . . . (this was not necessary, but the bird repeated what Hassan had said) . . . . . my father is a dog, get long feathers, the dates of Hassan Ben . . . . . " (I do not know the name of Hassan's father and if the man was a dog it does not matter) . . . . . "the dates of Hassan are three times larger than they are."

It is true, the wiseacres in Damascus proclaimed against this—but not for long. There was in the voice of the bird something that made the air vibrate in a way that influenced even refraction; the dates grew, grew, grew . . . . . in the eyes of all. And the bird always kept on, "The dates of Hassan are three times larger than they are."

And . . . . . they grew. All the people overgaped themselves to bite in them, and Aouled grew very thin. But Hassan bought many goats and lambs, and he built them a roof over his mat. He became exceeding honest and found it shameful when someone who had no lambs himself stole one of his. And Hassan continued to fear Allah.

For all this piety and all this wealth he thanked the small bird, who always told the same lie, and by the repetitions made truth of the lie. Everybody in Damascus found the dates of Hassan to be large, everyone was compelled to buy them. Everyone . . . . . except Hassan himself. For in secret Hassan got his dates from Alouled, whose only customer he was.

And so it has remained in the world until this very day. D. A. Zwigtman.

Niles, Mich.

[The reader of CLINICAL MEDICINE is invited to interpret this little story in his own way!—ED.]

DOES THE MODERATE USE OF ALCOHOL LOWER HEALTH AND EFFICIENCY?

Before the Association of Military Surgeons at Washington, D. C., October 2, 1912, Col. L. Mervin Maus delivered an address on the subject indicated in the title. Col. Maus showed that the action of alcohol, even in socalled "moderate doses," is undesirable and harmful, and that as a whole the important and deleterious role played by alcohol is not realized sufficiently. Col. Maus epitomizes the principal effects of alcohol, both psychological and pathological, as follows:

1. Through its inhibitory action on the brain centers alcohol lowers all of the mental facilities, such as intelligent thought, perception, memory, judgment, proper comparison of people or things, caution and quickness of action. If continued for years the intellect is permanently affected and the mental stigmata transmitted to succeeding generations.
2. It lowers the moral standard, lessens self-restraint, is productive of unreliability, untruthfulness, dishonesty and crime.
3. It affects the resisting powers of the red and white corpuscles, and of the blood serum, against diseases.
4. It lessens working capacity, marching endurance, accuracy and rapidity in rifle firing, ability to command troops and solve military problems, to navigate and maneuver war vessels, to act as members of courts and military boards, to properly perform administrative work, to develop the intellect and fit one for the higher duties and responsibilities of life.
5. It causes sickness, impairs health and usefulness, adds greatly to the non-efficiency of both officers and men, adds additional burden and cost to the medical department, deprives the government of otherwise valuable officers and enlisted men, and forces them on the retired or pensions lists, with corresponding increase of governmental expenditures.
6. Vital statistics clearly prove that the moderate use of alcoholic beverages reduces the longevity of mankind. They have a distinctive bearing on public officers, many of whom have passed years on sick status as a result of their use. Many have died in the prime of life, or have been retired from active duty through their direct or indirect influence. The same may be said of enlisted men in both services.
7. It causes gastric catarrh with its train of neurotic and digestive disturbances, cirrhosis of the liver, Bright's disease and albuminuria, chronic pharyngitis, erysipelas, gout, neuritis, glycosuria, arteriosclerosis, paralysis, fatty heart, exhaustion and sunstroke, epilepsy, imbecility, melancholia, dementia and insanity.

Colonel Maus shows that serious mistakes have occurred among officers in command of land and sea forces, as a result of alcohol-use. He claims that medical officers, the proper performance of whose duties involves the safety and lives of others, should especially be debarred from the use of alcoholic drinks while on duty, because it is a well-known scientific fact that alcohol lowers all of the intellectual functions, deprives men of judgment and unfits them for important duties. He goes still further, and claims that total abstinence should become a requirement in the election of our presidents, governors of states, senators, congressmen, judges and all officers within the suffrage of the people. He demands that no one who uses alcoholic beverages should be appointed to the important positions of cabinet officers, members of the supreme bench or district courts, heads of government bureaus, civil or military, to the command of military or naval forces or any other position of importance and responsibility.

Col. Maus holds that the government has the right to require every officer and enlisted man on the active list to safeguard himself against vicious habits which are inimical to health and efficiency, just as the use of nonsterilized water is forbidden to prevent amebic dysentery, and certain articles of diet to prevent malaria and beriberi; just as vaccinations have been enforced against smallpox, typhoid fever and diphtheria, and mosquito-bars against malaria, so the total abstinence from alcohol should be enforced, since this is one of the greatest factors in the causation of venereal diseases, impaired health, and nonefficiency in our public service.

Radical as the position of Col. Maus may be, it is not by any manner of means a "newfangled notion." Records were found on Babylonic cuneiform tablets forbidding the use of wine in any form to persons engaged in public business, asserting that work done for the government by persons who used wine could not be perfect. All builders of palaces, army officers and superintendents of public work were required to abstain absolutely from all spirits. During the reign of one of the Rameses attention was invited to public disasters following the use of wine by the leaders, and orders were given under pain of death for total abstinence among public employees.

HOW ONE DOCTOR AVOIDS REFILLING OF PRESCRIPTIONS

Dr. F. M. Summerville sends us a copy of his prescription blank, which we reproduce below. It will be observed that the pharmacist is positively forbidden to refill a prescription without the doctor's consent—an excellent plan. We have observed that in a number of new pharmacy bills pending in different legislatures the refilling of prescriptions, especially of narcotic drugs, is forbidden by statute.

F. M. SUMMERVILLE, M. D.
EMLENTON, PA. OFFICE HOURS—2 TO 5 P. M.
'PHONE 158 7 TO 9 P. M.

NOTE.—This prescription is only for the person named hereon, and is ordered for the conditions existing at the time of consultation; it is, therefore, not to be renewed or a copy given without my written consent.

NAME............................

THE AGE WE LIVE IN

We certainly live in a wonderful age,
And few would dare deny it;
But I do not pretend to pose as a sage,
And certainly would not decry it.

Our fathers were proud of eight minutes a mile,
While we ride a mile in a minute;
If we were contented with some other style
We certainly shouldn't be in it.

Our mothers would make them a dress in a day
Without a machine or assistance,
Their habits were simple, and that was their way;
They needed much less for subsistance.

But now our daughters must have automobiles,
With elegant suits to display them;
Some have wheels in their heads and some in their heels,
But I have no wish to betray them.

Our boys we are proud to have in the professions,
So we send them to high school and college.
They study the ball games and a few other things,
And return surfeited with knowledge.

We hire them as lawyers to make us our laws,
They say it takes brains to compound them.
'Tis hard to believe it, yet every one knows,
They themselves are the first to get 'round them.

And, if with a neighbor you have a dispute,
'Bout a cow or a crop, who has grown it,
You likely will find by the time you get out
The lawyer's the one that will own it.

If we feel "out of sorts" to the doctor we go,
For a hurt or a pain or an aching;
He'll give you a pill or a powder, or so—
The cure will be sure for the taking.

If your eye or your ear or your liver or heart
Gets useless and causes you bother,
He'll cut it clear out and give you a start
By filling its place with another.

And, if in the field of invention we go
And gaze at our fast locomotion,
Astonished we see how much science we know
On the earth, in the air, on the ocean.

The Wrights in their tights are "up in the air,"
The Wilsons have gone even higher.
Mr. Bell now will sell for a price that is fair,
Since Marconi dispenses with wire.

And if we go searching to find pedigree
Of Hurly or Spencer or Darwin—
They say we originally came from the sea
And were fathered by some sort of varmin;

And later baboons, perhaps chimpanzee,
Or some other species of monkey.
If judged by the actions of some that we see,
More likely they came from the donkey.

For parsons or priests we haven't much use,
And their creeds, we are better without them,
And hope every man does the best that he can,
Since they know so little about them.

In government we are no better, but worse—
Municipal, state or the nation—
Our morals have got so accustomed to steal,
It doesn't cause any sensation.

Life's getting so fast it sure cannot last
As present conditions are going;
And what is ahead of the living or dead
We have mighty small chance of knowing.

But some that will fight, and we hope they are right—
The life here is only beginning.
And right over there in that country so fair
There are many less chances of sinning.

That the spirit will be in the land of the free,
Away from the body's possession;
Upward and onward the watchword will be
And life a continuous progression.

But I'll be content whatever is sent,
Tho' some of our hopes may be blighted,
For we have a Friend who is true to the end,
And everything wrong will be righted.

H. S. JONES.

St. Joseph, Mich.

A good home-remedy for earache is the following: Place cotton in the ear and blow warm tobacco smoke through it from the stem-end of a pipe after covering the pipe bowl with thin cloth. Warm vaseline often stops the pain. When these fail, warm 10 drops of a 10-percent solution of cocaine and pour it into the ear.—*S. S. Bishop.*

JUST AMONG FRIENDS

A DEPARTMENT OF GOOD MEDICINE AND GOOD CHEER FOR THE WAYFARING DOCTOR

Conducted by GEORGE F. BUTLER, *A. M., M. D.*

I AM like Joshua Billings—I don't believe in fighting. I am solemnly against it; but, if a man gets to fighting, I am also solemnly against his getting licked. After a fight is once open, all the virtues that is in it is to fight the other party.

Doctor, a restful spring day, with God listening to the musical murmurs of the forest, will strengthen you for many a days' struggle in practice in the city.

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Here are some significant symptoms which it is well for every doctor to remember. A tendency to sleep with the hands tightly clasped over the head suggests some form of dyspepsia or stomach trouble. A dull pain at the back of the head, with lassitude and despondency, generally is evidence of phosphatic urine. Drooping eyelids that cannot be voluntarily raised, except following injury or disease causing paralysis of the third nerve, are apt to indicate apoplectic plegia. A small, movable, pea-like body in the lobe of the ear, a deposit of urate of sodium, suggests a gouty or rheumatic diathesis.

When a patient with albuminuria is swollen, the kidneys are apt to be enlarged; when emaciated, these organs probably are contracted. When the feet alone are swollen, the heart usually is involved; when the abdomen only is swollen, the liver usually is at fault. A persistent bad taste on rising in the morning, independent of stomachic derangement, is apt to point to threatening cardiac trouble. Club-shaped ends of the fingers suggest phthisis, heart disease or emphysema.

Constant burning heat of the body, regardless of temperature, combined with lingual tremor and difficulty in preserving equilibrium, is most suggestive of threatening paralysis agitans. When the muscles of the abdomen flap up and down with the movement of the diaphragm, suspect lesion or disease of the spinal cord. When a perfectly sound leg drags after its fellow and there is inability to raise it from the ground, it is apt to be evidence of impending disease of the spine. Inability to stand steadily with eyes closed, nervousness when descending stairs, raising one leg unnecessarily high to cross it over the other, hesitating in rising from a chair when bidden, are considered as partial evidence of incipient locomotor ataxia.

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The recollection, that neuralgic pain is usually only the manifestation of some other underlying difficulty and that the careful search for and the discovery of this difficulty and its consequent removal will relieve the neuralgia, is perhaps the most important part of the treatment of this affliction. At the same time, patients suffering from neuralgic pain urgently demand speedy relief, so that it behooves the physician to have ready for instant employment a certain class of drugs known to exercise a sedative influence upon nerves or nerve-centers that are giving pain because of irritability.

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Among the common causes of neuralgia, aside from those conditions which depend upon organic lesions in nerve-centers, are anemia, eye strain, the conditions called uricacidemia, and other disorders of metabolism closely associated with a rheumatic or gouty diathesis, carious teeth, nervous exhaustion, and, lastly, the abuse of such drugs as coffee and tobacco. It is surprising how frequently the arrest of the tobacco-habit in men will cause neuralgic symptoms to disappear, or, in the case of women, the stopping of the use of excessive quantities of coffee will result in benefit. These neuralgic manifestations by no means infrequently affect other portions of the body, besides the head. Frequently violent abdominal neuralgia, thoracic pains or ovarian neuralgic tenderness take the place of cephalalgia.

It can not be doubted that there are two sorts of neuralgia, very different from each other in almost every respect and, yet, too apt to be confounded. The one precedes or arises from a local and circumscribed cause, which, in some cases, may be removed by a surgical operation or by magnetism. The other appears to depend upon a constitutional cause, that is, upon great derangement of the general health, and this is treated successfully only by attention to such derangement. The latter species is usually seated in some of the most superficial nerves, returns at irregular intervals, induces little or no change in the appearance of the part afflicted either during life or when examined after death, and it may, therefore, be supposed to have a constitutional, i. e. systemic, origin, rather than merely a local and circumscribed one.

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Some authorities consider neuralgia to be dependent upon an inflammatory state of some portion of the nervous system, but I do not consider this correct. It is by no means rare to meet with individuals who, without any physical or rational sign of organic disease, and sometimes even while enjoying the most perfect health in other respects, suffer acute pains (occasionally even extremely acute pains) in the interior of the chest. This pain may be momentary or of long duration, intermittent or continued, confined to one spot or diffuse, fixed or movable, while sometimes it shoots by fits along the walls of the chest and neighboring parts, along the course of the intercostal and the interior nerves of the chest of the congeries of nerves in the arm-pit; frequently it is deep-seated between the spine and shoulder blade. It is worthy of notice here that many young women are very subject to pain in the side about the middle of the false ribs. This is commonly connected with some derangement in the health, poor blood, and sometimes with a more or less pronounced lateral curvature of the spine.

Depleting measures are by no means proper in this affection, the most certainly operative measures being those which tend to invigorate the system and establish the general health.

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Sometimes these pains are confined to the region of the heart, but frequently they extend at the same time or else vicariously over a greater or smaller portion of the lungs and stomach. Sometimes they exist simultaneously in the superficial nerves of the neck and extend along the tracts of the branches supplied by these to the anterior parts of the chest. Still more frequently, at the very time they are felt most severely in the heart, they shoot with corresponding violence along the nerve of the arm-pit and more particularly along the nerve of the arm to the elbow and sometimes as far as to the fingers, simulating the organic affection called breast-pang or angina pectoris. It is of consequence to observe that this affection sometimes so strongly resembles angina pectoris as to call for the exercise of considerable judgment to distinguish one from the other. This fact should inspire the patient with hope and induce calmness and composure, while leading the medical advisor to offer his opinion cautiously and with some reservation in the majority of instances.

Neuralgia is met with much more frequently in some years than in others, and it seems that the prevalent type of disease influences its development.

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In a general way, whatever has the greatest effect in invigorating the system and restoring all the functions of the body to a state of healthy action will be most uniformly of the greatest service in the treatment. Among the drugs that are commonly employed for the relief of these conditions, we have various combinations of the coal-tar products, such as antipyrin, phenacetin, and acetanilid, as also the bromides and caffeine; while among the other drugs of well-known reputation, aconitine, gelseminine, and cannabis indica, next to the coal-tar products, are, in their ability to relieve neuralgic pain, greater than any other drugs, whether the neuralgia be mild in character or as severe as that met with in sciatica.

Then, too, it is not to be forgotten that in many cases of neuralgia depending upon poor circulation and nervous exhaustion, full doses of strychnine will produce valuable results, although they cannot be relied upon, when disconnected from other supporting treatment, to be of any permanent advantage. Gelseminine is another valuable drug in the neuralgia affecting chlorotic girls. Gelseminine is especially valuable in congestive neuralgia; and in diathetic and intercostal neuralgia aconitine and asclepidoid are invaluable remedies. In the neuralgia of exhaustion, both strychnine and atropine are valuable.

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Ovarian neuralgia usually yields to gelseminine, atropine or macrotoid. Visceral neuralgia also will yield to these drugs, but when the trouble seems to be in the rectum æsculin acts very well indeed. Ocular neuralgia yields temporarily to physostigmine or hyoscyamine, although, if the neuralgia is due to some form of eye strain that can be corrected, an oculist should be employed at once.

A combination of remedies which without doubt is of much value in various neuralgias depending upon malarial intoxication, and one which also does good in neuralgic pains not arising from the cause named, consist of a few grains of quinine and a minute dose of morphine; the only difficulty with this remedy being that the patient is apt to become addicted to the morphine.

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Then we have another drug which without doubt is of very great value in certain forms of neuralgic pains, particularly in the head, namely, chloral and the butylchloral hydrate, the latter being especially valuable in facial neuralgia and neuralgia from carious teeth. Chloral hydrate often will prove of singular service where other remedies have failed. It is a noteworthy fact that in reflex dental neuralgia this drug seems to be of less value than in other forms of pain affecting the distribution of the fifth nerve and that it is practically useless in the pain of toothache. It also possesses the additional advantage of causing a tendency to sleep, which is useful in many cases.

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In old persons with atheromatous blood-vessels and high arterial tension who suffer from violent neuralgic pain affecting the fifth nerve, very great good can often be accomplished by the use of full doses of nitroglycerin administered simultaneously with full doses of strychnine. In addition to these measures, local freezing of the tissues surrounding the superficial nerve, by means of ether or chloride of ethyl, thrown in a fine spray, or by the use of ice and salt, is not to be forgotten; while, on the other hand, in other instances a high degree of heat applied by means of a big bag of salt or other warmed object will be efficacious.

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In neuralgic pains of deep-seated nerves, massage in the neighborhood of the nerve and over its course, with a round stout glass rod which will dig deeply down into the tissues, often is very useful; particularly if an ointment containing menthol is smeared over the part to lubricate the skin and to exert a benumbing and counterirritant influence of this derivative of peppermint. In still other cases, a continuous galvanic current will give great relief.

I wish to remind the reader that many cases of neuralgia are due to toxemia of some sort or other. Then, at times, there will be found a condition of uricacidemia, the overcoming of which will cause the neuralgia to disappear.

The urine should always be examined for the doctor's guidance. On general principles, free elimination by skin, bowels, and kidneys should be maintained. Many cases of obstinate neuralgia can be entirely cured by cleaning out the bowels, rendering the blood more alkaline and overcoming the acidemia by means of saline laxatives and alkalis.

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The principles involved in the rest-cure were formulated as long ago as at the time of Soranus; almost all the psychologic principles which are taught today were outlined by this alienist two thousand years ago. With the moral treatment, which is so essential in the conditions benefited by the rest-cure, Soranus included baths, massage and allied procedures. The basic principles of the rest-cure were worked out first in insane-hospitals and later adopted by neurologists.

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While Dr. Weir Mitchell's name has been most commonly associated with this mode of treatment, and while this neurologist has done much to popularize it (and, it may be said in passing, to render the quackish practice of it by nurses easy), still, he merely applied in public what many physicians had previously done without ostentation. His conception of the subject, however, was an erroneous one, being based on the assumption that obesity is a sign of health. But, it is now generally recognized that obesity is an expression of suboxidation and hence by itself no evidence whatever of mental or physical improvement; indeed, it may be an expression of mental deterioration, since it occurs when emotional stress fails to provoke physiologic reaction. Among the insane this has long been recognized.

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Careful perusal of the earlier works of Dr. Mitchell shows that he considered overfeeding of more importance than change of environment and mental and physical rest. It is obvious, moreover, that he failed to recognize the dangers of introspection in the cases of patients where the rest-cure is indicated. The fact that the mental state in rest-cure patients was injured by this subjectivity, and that many disturbances of the heart, lungs and other viscera result, had been pointed out by the alienist Tissot more than a century ago.

(*To be Continued.*)

AMONG the BOOKS

WHIPHAM: "DISEASES OF CHILDREN"

The Medical Diseases of Children. By T. R. C. Whipham, M. A., M. D., physician to the Evalina Hospital for Sick Children; assistant physician to the Children's Department of the Prince of Wales' Hospital; lecturer on Diseases of Children at the North-East London Postgraduate School. With 67 illustrations. London: University Press. Published by Hodder and Stoughton, and Henry Frowde. Price $3.75. 1912.

There are many good things to be said about this book, and also many criticisms that might justly be made of it. Its author is well and favorably known as a good pediatric clinician of large experience and ripe judgment, and these qualities shine through every page of his writing. We think, however, that he has made a mistake in overdoing his evident attempt to condense and epitomize the subject. We notice, also, that he still clings to a great many of the older views concerning certain diseases which more modern research would seem to have rendered almost untenable. To illustrate:

Dr. Whipham still regards rickets as a disease of faulty nutrition, saying nothing whatever about the contributions by the Italian school to the etiology of the disorder; he still teaches rheumatism as a metabolic condition, and chorea as a sequel of rheumatism, whereas modern understanding of these diseases tends more and more to the infectious nature of the one and the biologic origin of the other. The author is at his best in the discussion of digestive and circulatory diseases in children. Furthermore, he is clinically helpful everywhere. We must confess, however, that the book, as a whole, does not compare very favorably with some of the better American works on pediatrics.

BRAUN AND FRIESNER: "THE LABYRINTH"

The Labyrinth. An aid to the Study of Inflammations of the Internal Ear. By Alfred Braun, M. D., and Isidore Friesner, M. D. With 50 figures in the text and 34 halftones on plates. New York: The Rebman Company.

Strange as it may seem, it is only in quite recent years that the labyrinth of the ear has become an explored and tractable region. For its exploitation we are chiefly indebted to Jansen, Neumann, and Ruttin, all of Germany. These men during the past ten years have concentrated their attention upon this structurally small but functionally highly important organ, and have at last furnished us with a most complete and valuable understanding of its anatomy, its physiology and its peculiar pathology.

The authors of the book before us evidently are followers of the investigations of the three great German otologists named, and it should be understood that we mean no disparagement of their own effort when we say that it is practically a summary of the masters' researches. This treatise is, however, something more than a mere summary; it is a recasting of their work into American forms of thought and angles of view. And, above all, it is a useful clinical application of all the most recent data, so as to constitute what its title claims for it, "an aid to the study (and we might add, to the treatment) of inflammations of the internal ear."

This work is, of course, essentially one for the specialist; and we can hardly see how an ear-specialist can afford to be without it. But every man who ever has anything to do with the ear or with diseased conditions arising from the inner ear, will find that it sheds a vast amount of illumination upon what have hitherto been obscure pathologic problems. The mechanical make-up of the book is excellent; the illustrations are works of art.

HART: "PSYCHOLOGY OF INSANITY"

The Psychology of Insanity. By Bernard Hart, M. D. Lecturer in Psychology, Univeristy College Hospital Medical School; medical superintendent, Northumberland House Asylum. New York: G. P. Putnam's Sons. Price $0.40. 1912.

The Englishman may always be depended upon to extract the practical useable nub from any subject that he tackles. That is his national matter-of-fact temperament, which earned for him the sneer of Napoleon that the English were a "nation of shopkeepers." It is also the quality which has made England the world's manufacturing center. It is also the characteristic which has made her the great practical clinical clearing-house for a very large part of medical science. Thus, Jenner with his vaccination, Crookes with his vacuum-tube, Wright with his opsonic index are typical examples of the practical English mind "practicalizing" profound scientific principles—which, by the way, usually originate in the German mind.

Here is another instance. The far-reaching and somewhat nebulous theories of Freud and Jung and Kraepeling are focalized and crystallized by Bernard Hart into a clean-cut, systematic, psychologic diagnostique. With clearness and simplicity of method, Hart has reduced the complex phenomena of insanity to a few orderly, basic concepts and shown that they follow similar definite psychologic laws as those which govern normal mentality. He makes it plain that the processes of repression and dissociation and projection in the insane mind are but exaggerated phases of the natural processes by which the normal mind seeks to escape conflict with itself; and he furnishes a key to the solution of the vexed problem of insanity so simple and so logical that he who runs may read—and, reading, may apply it. This is by far the most illuminating little work on the subject that we have seen in a long time.

SUTHERLAND: "DISEASES OF CHILDREN"

The Treatment of Disease in Children. By G. A. Sutherland, M. D. Second Edition. Oxford University Press. Price $3.75.

This book, the author states, aims to be "a practical guide to the young practician." New methods of treatment which have been personally tested or are believed to have permanent value are described, and throughout, an attempt has been made to outline one such treatment fully, while omitting mention of other remedial agents or methods that may prove applicable.

As to the phase last named, we sincerely regret this tendency to give a "set treatment" for a named disease, for infinitely more satisfactory results must follow the intelligent administration of the right remedies for pathologic conditions of the individual—be they causative or symptomatic. It is true that we have to contend with certain fairly constant groupings of conditions, but the successful pediatrist of today knows how impossible it is to formulate a single fixed method of treatment for even such a simple disease as measles. Furthermore, the medicinal agents recommended by the author are, in the main, old-fashioned and decidedly devoid of elegance or palatability; large doses of some of the most nauseous mixtures familiar to the past generation are prescribed, despite the fact that the essential ingredients can now be so easily administered in the form of tasteless small tablets or granules.

On the whole, the volume, although it contains much that is worth while, does not commend itself to the reviewer as a satisfactory "practical guide to the young practician." Rather its perusal would serve to strengthen the opinion of the pediatrist "retiring on account of age and increasing infirmity" that the procedures dear to his preceptor are still decidedly *au fait*.

MORTON: "GENITOURINARY DISEASES AND SYPHILIS"

Genitourinary Diseases and Syphilis. By Henry H. Morton, M. D., Clinical Professor of Genitourinary Diseases in the Long Island College Hospital. Third edition, revised and greatly enlarged. Philadelphia: The F. A. Davis Company. Price $5.00.

The rapidity with which the two prior editions were disposed of and the present insistent demand for this book would tend to prove that Doctor Morton has succeeded in furnishing the active practician with just the information he requires.

No branch of medicine has made greater advances in the past decade than the department of genitourinary surgery, and within that period our conception of the etiology and pathology of syphilis has been materially changed. The spirochæta pallida has been definitely recognized as the causative microorganism; the possibility of communicating syphilis to animals has been proven; the existence of the disease in the latent stage can now be established by the Wassermann reaction; and, finally, Ehrlich has given us, in salvarsan, a remedy equal and in some respects superior to mercury. The possessor of Morton will find himself *au courant* with the technic of modern syphilography; the chapters upon "Diagnosis" and upon "Treatment" being particularly practical and complete.

Urethroscopy and cystoscopy receive unusual attention, and for this, if for no other reason, the volume will appeal strongly to the man who has to work alone under difficulties. Prostatitis and vesiculitis in their various stages are exhaustively considered, while the remedial measures—both operative and therapeutic—which have proved most effective are described in detail.

The commoner diseases of the genitourinary organs are not passed over merely with a paragraph or two, but receive the attention they demand from the man in the field. It is especially pleasant to note the frequency with which an outline of rational therapeutic procedures replaces the caption, "Operative Technic." The illustrations accompanying the text are new, numerous and really informative, each step of an operation and the special appliances used being clearly shown. The general practitioner, the reviewer is inclined to think, will regard Morton as the best treatise on the subject for his library, and it is quite certain no "G.-U." man will be able to resist the exquisite plates and halftones illustrating the various operations.

BOOKS RECEIVED

The New Psychology: Its Basic Principles and Practical Formulas. By A. A. Lindsay, M. D. Portland, Oregon: The Portland Printing House. 1908. Price $1.25.

Hypnosis and Suggestion: Their Nature, Action, Importance, and Position Among Therapeutic Agents. By W. Hilger, M. D. Translated by R. W. Felkin, M. D.; with an Introduction by Dr. Van Renterghem. New York: The Rebman Company. 1912. Price $2.50.

Suggestion and Psychotherapy. By George W. Jacoby, M. D. With illustrations. New York: Charles Scribner's Sons. 1912. Price $1.50.

Primitive Psychotherapy and Quackery. By Robert Means Lawrence, M. D. Boston and New York: The Houghton Mifflin Company. 1910. Price $2.00.

Psychotherapy. Including the history of the use of mental influence, directly and indirectly, in healing and the principles for the application of energies derived from the mind to the treatment of disease. By James J. Walsh, M. D., Ph. D. New York: D. Appleton & Co. 1912. Price $6.00.

Insanity in Everyday Practice. By E. G. Younger, M. D., M. R. C. P. Second edition, revised and enlarged. Chicago: The Chicago Medical Book Company. 1910. Price $1.25.

The Way with the Nerves. Letters to a neurologist on various modern nervous ailments, real and fancied, with replies thereto telling of their nature and treatment. By Joseph Collins. New York: G. P. Putnam's Sons. 1911. Price $1.50.

Reason and Sentiment. An address delivered in the aula of the University of Berne, March 3, 1910, by Paul Dubois. Authorized translation by Edward G. Richards. New York: The Funk & Wagnalls Company. 1911. Price 50 cents.

Hygiene and Public Health. By B. Arthur Whitelegge, M. D., B. Sc., and George Newman, M. D., D. P. H. Illustrated. New York: The Funk and Wagnalls Company. 1910. Price $1.75.

The House-Fly, Disease Carrier. An account of its dangerous activities and of the means of destroying it. By L. O. Howard, Ph. D. New York: The Frederick A. Stokes Company. 1911. Price $1.00.

Principles of Microbiology. A treatise on bacteria, fungi, and protozoa pathogenic for domesticated animals. By Veranus Alva Moore, B. S., M. D., V. M. D. With 101 illustrations. Ithaca, N. Y.: Carpenter & Co. 1912. Price $3.50.

Modern Microscopy. A handbook for beginners and students. By M. I. Cross and Martin J. Cole. Fourth edition, revised and enlarged, with chapters on special subjects by various writers. Chicago: The Chicago Medical Book Company. 1912. Price $2.00.

Elementary Bacteriology and Protozoology: the Microbiological Causes of the Infectious Diseases. By Herbert Fox, M. D. Illustrated with 67 engravings and 5 colored plates. Philadelphia: Lea & Febiger. 1912. Price $1.75.

Monographs of the Rockefeller Institute for Medical Research. A Clinical Study of Acute Poliomyelitis. By Francis W. Peabody, M. D., George Draper, M. D., and A. R. Dochez, M. D. New York: The Rockefeller Institute for Medical Research. 1912. Price $1.00.

Fresh Air and How to Use It. By Thomas Spees Carrington, M. D. New York: The National Association for the Study and Prevention of Tuberculosis. 1912. Price $1.00.

Cholera and Its Treatment. (Oxford Medical Publications.) By Leonard Rogers, M. D., F. R. C. P. New York: Oxford University Press. 1911. Price $4.00.

Vaccine Therapy in General Practice. By G. H. Sherman, M. D. Chicago: Successful Medicine, Inc. 1912. Price $1.50.

CONDENSED QUERIES ANSWERED

PLEASE NOTE

While the editors make replies to these queries as they are able, they are very far from wishing to monopolize the stage and would be pleased to hear from any reader who can furnish further and better information. Moreover, we would urge those seeking advice to report their results, whether good or bad. In all cases please give the number of the query when writing anything concerning it. Positively no attention paid to anonymous letters.

ANSWER TO QUERY

ANSWER TO QUERY 5903.—"Dermatitis Exfoliativa." The query in the April number of CLINICAL MEDICINE, concerning exfoliative dermatitis, has interested me. I should like to suggest to the doctor that he try Buckley's regimen of a rice diet. Give the patient three meals a day of well-boiled rice, bread and butter, and water. Absolutely nothing else, and let him continue this for four or five days. No special regulation as to amount eaten is required, and if three meals are not enough to satisfy his hunger, let him have some of the same food between the regular meals. I know that this sounds absurd, but I have tried this treatment twice in somewhat similar cases and the satisfactory result prompts me to pass the word along. Dosage with a saline laxative enough to keep the bowels open constituted the only other treatment.

M. E. COWEN.

Green's Farms, Conn.

QUERIES

QUERY 5905.—"Aleppo Button, or Oriental Sore." A. A. T., Turkey, a constant reader of this department, writes the editor as follows:

"In this country, it seems, almost everybody has what is known as Aleppo button (furunculus orientalis)—a truly terrible disease. You find the disfiguring scars on faces everywhere you go. For study, if I like, I can find hundreds, even thousands, of children. It is an endemic sore, develops like a papule, then ulcerates. Although I have read that it is caused by a parasite, I am very desirous to study the subject further, and so ask a few questions; namely: (1) What methods are employed in order to detect Leishman's bodies? (2) What books deal with this disease most fully? (3) What treatment has been most successful? As I am in the local hospital, I have a great chance to study the disease, which has been a great curse to the native population."

As regards literature on the subject in question, if you have access to Hare's "Modern Treatment," or, for that matter, to any of the more recent works on diagnosis, you will there find leishmaniosis defined, and also the causative protozoan parasites (leishmania infantum, leishmania tropica, and leishmania donovani) illustrated. The plates in Hare are particularly instructive; and the article on kala-azar and on oriental sore is worth careful study.

The three infections caused by the presence of a species of the protozoan parasite leishmania are: kala-azar (dumdum fever); infantile splenic anemia (leishmania infantum); and oriental sore (tropical ulcer).

In kala-azar, the leishmania donovani is found in the blood and tissues. It is probably transmitted by means of the bite of some cimicidæ.

In infantile splenic anemia, occurring in children in Italy, Sicily and northern Africa, the leishmania infantum is invariably present. It is difficult to distinguish this protozoan from leishmania donovani, both undergoing a flagellate cycle of development when cultivated upon blood agar. Nicoll considers that the dog is the natural host of the parasite. The method of transmission is unknown, but without doubt depends upon some insect.

The form of leishmaniosis in which you are particularly interested, i. e., tropical ulcer

(Aleppo button, Delhi boil, oriental sore), is due to infection by the specific parasite leishmania tropica. Morphologically, it is indistinguishable from leishmania donovani or leishmania infantum. Nicolle, however, who first cultivated the organism, thinks that the cultural forms may be distinguished.

Typical oriental sores have been produced in monkeys by the inoculation of debris from human ulcers. Flies, bedbugs or other insects may transmit the parasite, but it is now believed the infection is directly transmitted from individual to individual.

In the affected tissues there are mononuclear cells containing scores or hundreds of the parasites. The organisms exist within the cytoplasm of the cells and do not invade the nucleus. You will also find the leishmania donovani bodies illustrated beautifully in the "Third Report" of the Wellcome Research Laboratories connected with the Gordon Memorial College, at Khartoum, Abyssinia. It is published for the Department of Education of the Sudan Government by Bailliere, Tindall & Cox, 8 Henrietta St., Covent Garden, London, the price being $5.00.

Dr. Bitter, pathologist to the Egyptian Sanitary Department, probably can give you a great deal of information. He reports the finding of leishmania donovani bodies in chronic ulcers in an Egyptian, confirming thoroughly the findings of these bodies in "Delhi sore." The opinion of the investigators would appear to be that the organism producing these cutaneous lesions, although morphologically similar to that of kala-azar, is essentially different in nature.

In the "Review of Recent Advances in Tropical Medicine," a supplement to the "Third Report" of the Wellcome Research Laboratories (price $2.50), oriental sore is considered at some length. The author believes that the condition does not exist in the Sudan, but remarks, "as this is associated with the presence of parasites identical with the Leishman-Donovan body, and as kalarazar occurs in that country, a further study of chronic ulceration is highly desirable."

He quotes Manson's discussion, in which the fact is pointed out that, since exposed parts of the body are mostly affected, the disease is probably caused by some insect attacking those parts. Bugs and fleas, therefore, would be excluded, whereas mosquitoes and flies would be the effective carriers. He describes an attempt to inoculate a kala-azar patient from a case of oriental sore. Unfortunately, both the test inoculations and the controls failed. He is inclined to regard oriental sore as a blood-disease, and states that when it is cured in one place it will break out in another.

Sambon calls attention to the fact that the disease, which is "one of towns," occurs in dogs, and the typical parasites exist in their sores.

Cox describes two types of ulcer, the "male" and the "female," so called. The male ulcer is oblong in shape, like a date-seed (hence the name of "date-mark"), with an irregular, undermined edge and an indurated margin; it is tender on pressure, with a dry, uneven surface, and is extremely indolent in character. The ulcer either remains stationary in size or it gradually enlarges, sometimes attaining a diameter of two inches; as a rule, the size varies from that of a hazelnut to an inch in the wider diameter. On reaching its permanent size, the sore retains its characteristic appearance. Then it soon forms a dry pustular scab, which increases in size in successive layers, until it becomes a nodular crust, when it drops off, leaving the raw surface of the ulcer bare, and then the scabbing starts afresh.

The characteristics of the male ulcer apply also to the female ulcer; the only difference being that the latter, instead of forming a dry scab, is constantly discharging a pale-yellow watery pus, which adds to the distress of the patient. Both kinds leave a permanent scar.

For treatment in the late stages, Dr. Cox recommends strong sulphur ointment (20-percent) applied on resin plaster with a layer of wool on the top, to graduate the pressure of the bandage; this is applied daily (for four or five days) until the surface of the ulcer looks clean. Then tar ointment is applied until granulations appear. The latter are touched with copper sulphate, then an ordinary dressing of boric ointment is applied. Healing occurs in from one to six weeks. Arsenic in medium doses helps the cure.

On the same subject, Hare says: "The treatment of oriental sore depends very largely upon the stage of the disease; the earlier the condition is diagnosticated and treated, the better the results obtained. As a rule, unless treatment is persisted in and faithfully observed, it is unsatisfactory, and after the lesion is well advanced it will be found that many cases resist any form of treatment which may be employed. In the earliest stage the lesion may be destroyed by a Paquelin cautery or completely excised, but these measures should not be undertaken unless the lesion be very small and when but little destruction of tissue has occurred. Some authorities advise against such treatment at any stage.

"A useful method of treatment is a 2- to 4-percent solution of copper sulphate applied locally; or boric-acid ointment or silver nitrate may be used, the latter having many ardent supporters. If silver nitrate be used, it should be in the form of the solid stick, the surface of the ulcer being lightly touched with it at intervals of two to four days, and then washed with a potassium-permanganate solution and covered with an antiseptic dressing. The use of strong acids or caustics is not to be recommended. The ulcer, after it has once become clean and healthy in appearance, will heal slowly if protected from infection; and this should be the principal aim in the treatment of oriental sore.

"In those instances where the ulcer continues indolent and there appears to be a mixed infection present, thorough scraping of the surface with a Volkmann's spoon, followed by an antiseptic dressing, will be found of benefit in stimulating the healing process. The Roentgen rays are useless, and internal medication is of no benefit, beyond improving the general condition of the patient.

"When the case is first seen, if there are any scabs present, they should be removed and the ulcer washed with a 1 in 1000 solution of bichloride of mercury or a weak solution of potassium permanganate; and this cleansing wash should be repeated every day, after which some antiseptic ointment, such as boric-acid ointment or the ointment of oxide of zinc, may be applied. The French practitioners recommended a 5-percent ointment of permanganate of potassium.

"Many other drugs have been used in the treatment of this infection, but none of them can be said to act as a specific. Despite the most careful treatment, many cases persist for months, and even years, without appearing to be benefited; and it may truly be said that in the vast majority of cases cleanliness and protection of the lesion from secondary infections is attended with as good results as the use of more radical measures, as scrap, cauterization, and medication with strong antiseptic ointments.

"Intercurrent infections should be properly treated, and the general condition of the patient looked after carefully. A change of climate is often most beneficial, and the diet should be generous and nutritious in character. Tonics are generally useful, and anemia and debility are frequently present in patients suffering from this infection, and little good can be expected from the local treatment of the disease if the general health is poor. For this reason, every effort should be made to improve the physical condition of the patient.

"The prophylaxis of this disease consists in the avoidance of insects, protection of the skin from insect bites, and the prompt disinfection of such bites or of other wounds received in regions where oriental sore is endemic. In order to avoid infecting insects and as direct transmission is possible, the sores should be kept covered with an antiseptic dressing."

We are inclined to think that saturation of the individual with calcium sulphide will prove beneficial. Echinacoid and the triple arsenates with nuclein should be exhibited in full doses.

Were we in your position, we should be inclined to try iodine locally, securing penetration of the drug by cataphoresis. The high-frequency current (vacuum electrode) might also prove destructive to the parasite.

We trust that you will make some experiments along these lines and report your results for the benefit of the profession.

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QUERY 5906.—"Intestinal Obstruction and Starvation." C. McF., Oregon, requests us to describe the symptoms of starvation, and more especially he desires to be advised as to whether cachexia is always present in starvation. "Could worry," he queries. "so affect digestion, nutrition and assimilation that death might result quickly? In a case of persistent vomiting, with no bowel action after taking violent purgatives, and other attempts, would it not be advisable to stop feeding until the intestinal tract was opened up so that material could pass through?"

It is exceedingly difficult, in view of our limited knowledge of the actual conditions obtaining, to express an intelligent opinion about this case. In the first place, you do not state the age of the patient, nor do you tell us anything of his physical condition prior to the time he presented himself for treatment and when food was withheld; neither have we any knowledge of the length of time food has been denied him. The disease-process may have so weakened the individual that the withholding of nutrition for but even a short time might cause death from inanition; on the other hand, if there was absolute obstruction of the intestine, the giving of food whatever might have hastened death. Essential points: Was an autopsy held and the nature of the intestinal lesion causing constipation definitely ascertained?

Witthaus and Becker, in "Medical Jurisprudence," under the head of "Acute Starvation," say: "The complete deprivation of food induces a series of modifications of the functions of the body differing somewhat from those developed by a partial or prolonged deprivation. The length of time during which complete absence of food can be endured varies with circumstances."

As you will readily understand that the robust, so far well-nourished individual will stand starvation much longer than one weakened by disease.

After absolute stoppage of the food supply, all sensations of hunger pass away after the first day or two, and the hunger then is succeeded by profound functional disturbances and development of weakness and depressing sensations over the epigastric region, accompanied by distressing thirst. The mouth is dry; the tongue is heavily coated; breath, fetid; skin, harsh and dry, and exhales a disagreeable odor. The feces become more and more scant, until toward the later days of life, when a diarrhea of an acid character supervenes. The face and extremities become emaciated; urine is small in amount, and acid; muscular feebleness increases until inability to move supervenes. There is ringing in the ears, insomnia, hallucinations; delirium and convulsions frequently precede death. The latter symptoms are not uniformly observed.

Loss of weight is, of course, the most striking and most constant symptom of starvation. It must be remembered that a very considerable loss of tissue can be sustained by the ordinary individual without fatal result. It is difficult to discuss an exact period for the duration of life in complete deprivation of food, or acute starvation; and it is more difficult where the modifying circumstances are increased in number and complexity.

The conclusion has been reached by competent observers that the healthy adult totally deprived of food and water can exist no longer than ten or twelve days; yet, within recent years, a young man stowed away upon a steamer recovered after being deprived of food and water for eleven days. Caspar reports a similar case. Miners who have been imprisoned for eight, nine or ten days without food and water have recovered. Infants bear starvation badly, and the aged, also, can not endure starvation for many days.

If water is permitted, the length of the interval before death supervenes is materially increased. Tanner and Succi are supposed to have received no food for forty days, but water was consumed freely. Of late, numerous like experiences have been reported in the press.

It must be remembered that certain abnovmal conditions may obtain, where the activity of the vital functions is considerably lowered and various processes of the economy are in a condition of semisuspension; in such cases, a supply of food may be suspended for several days with little resultant emaciation.

We naturally would suppose that an individual suffering from volvulus or intussusception, unrelieved by surgical treatment and already weakened by the use of purgatives, would succumb speedily from inanition. In such a case, the intestinal canal being impermeable (and bear in mind that the location of the obstruction has something to do with the length of time the man might live), the giving of ordinary food might hasten death, whereas life might be prolonged by the careful administration of concentrated fluid nutrients by mouth or rectum.

You ask, "Would it not be advisable to stop feeding until the intestinal tract was opened up so that substances could pass through?" Such a question cannot be answered categorically. Certainly we should not give solid foods to a patient suffering from acute obstruction; and purgatives here are not only useless but positively harmful. If you care to give us more definite data, we possibly can discuss the subject more intelligently.

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Query 5907.—"Hair-Tumor or Dermoid Cyst?" H. B., Michigan, inquires whether we ever have heard of a hair-tumor in the alimentary canal. He has under his care a woman "who always has to spend considerable time in defecation and who sometimes voids a slimy material which may contain skin shreds or, also, one or more small bundles of hair of the kind that grows on the pubes or in the axillæ. The hairs sometimes are brownish, sometimes whitish, sometimes black. The woman weighs about 220 pounds, is a hearty eater, and she does housework. She never had children. Her mother died of 'cancer of the liver,' having had 65 gallstones removed by operation the year before she died. One of her aunts (on mother's side) died of uterine cancer. All the relatives on the father's side reached eighty years of age. She resembles her mother. She complains of having a 'dead-weight' feeling in the small of her back."

The present writer not only has heard of but has treated patients who harbored small "bundles," or rather collections, of hair in the intestinal canal. You know, neurotic and insane women, or even chlorotic girls, often will eat hair. As you may be aware, enormous masses of hair have occasionally been found in the intestines of cows. Their hair, however, being short, is less apt to mass than that of the human being.

A dermoid cyst may, of course, be present in this woman. These cysts may contain such foreign substances as bone, hair, teeth, and so on. Such cysts are not extremely rare, but the remarkable tumor-like masses of swallowed hair that have been reported as occurring in hysterical women are regarded as clinical curiosities. This condition, moreover, is rarely recognized until there is an operation, although the history may give rise to a suspicion of the character of the mass.

It is just possible that in this case a dermoid cyst has become adherent and opens into the intestine, whence the contents are being discharged. The fact that this woman has never borne children would tend to confirm the correctness of such a diagnosis.

It would be well, we think, for you to send a specimen of mucus and hair voided to a good pathologist. At the same time make a careful physical examination. See whether you can discover by deep palpation the presence of any abnormal body. Exploration of the rectum with reflected light might prove informative. The wisest procedure would be, of course, to have your patient submit to a searching examination, under anesthesia if necessary. You do not say how long these abnormal conditions have been observed. This is an interesting case, and we shall appreciate a further report.

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QUERY 5908.—"Tinea Circinata or Lichen Annularis?" T. D. F., Georgia, writes:

"After reading your journal for some years and finding so much 'good stuff' in it, I venture to describe a case now on hand and ask you to give me some help. I have made a diagnosis of ringworm. The rings began to appear on the wrist, both anteriorily and posteriorily, five years ago. They are from one-half to one inch in diameter, some round and some oblong in shape. The rings are red and smooth; the area inside is white and seemingly bloodless. They itch only occasionally, but each year some new rings have appeared, and they remain. The patient is a woman twenty-one years old and a blonde. She has no other trouble, being in perfect health, except for a little indigestion and marked constipation. I have tried all of the usual remedies for ringworm, and several other doctors have treated her for the trouble, but without any relief whatever. I must say that, in my judgment, your journal contains more useful information for the busy doctor than any other medical periodical I have ever read. I take three other journals, but I prize CLINICAL MEDICINE more than I do all the others combined."

We are not sure that you are dealing with tinea circinata in this instance. We must think, in this connection, of lichen annularis, a typical ringed eruption of the extremities. In this disease the border itself is raised slightly above the surrounding skin. The enclosed skin of the area may look normal or present a pale ivory-like appearance.

The lesions usually begin as small papules or nodules in the center of the area now affected and advance by peripheral increase. The disease persists, sometimes, for years. There are variant forms. The treatment with the arsenates and the local application of a 2-percent salicylic-acid preparation usually proves curative.

In tinea circinata we observe one or more slightly elevated, limited, scaly, hyperemic spots, which spread uniformly, and peripherally, with a tendency to clear up in the central portion, until a ring-like aspect is presented. The central portion generally is pale-red and slightly scaly. The outer portion is elevated, though rarely to a conspicuous degree, and decidedly hyperemic and somewhat scaly. After reaching one-half to several inches in diameter, they remain stationary, but usually disappear spontaneously after a few weeks.

The most frequent sites for the ringworm are the face, neck, hands and forearm; the face, neck and upper chest being involved more frequently than other areas.

In order to arrive at a definite diagnosis, we suggest that you forward scrapings from the edges to our pathologist for microscopical examination.

Should this be a case of ringworm, you cannot do much better than to saturate your patient with calcium sulphide, first "cleaning up" thoroughly internally and externally. We suggest calomel, podophyllin and irisoid, taken at 8 and 10 o'clock every other night for a week, and a laxative saline the next morning. Give calcium sulphide, 1-6 grain, every two hours during the waking day, and the triple arsenates in full dosage after meals. Bathe the body thoroughly, two or three times a week, with epsom-salt solution; then paint over the lesion with liquefied carbolic acid, and in one minute neutralize this with alcohol. Twice a day rub in a little carbenzol ointment. Or you may apply, once only, a 10-percent ointment of chrysarobin. We have had excellent results with both methods. The application of oil of turpentine often proves curative.

We note with great pleasure your approval of Clinical Medicine. It is our aim to make each successive issue better than the preceding one, and believe that the busy doctor prefers to read practical articles that will help him in his field-work, rather than abstruse subjects.

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Query 5909.—"Partial Impotence in Man of Seventy." W. B. R., Mississippi, "desires to interest us in a case of partial impotence in a man of about seventy years of age." The doctor begs us not to say that this is to be expected as a natural consequence of age, for the patient is in perfect health, mentally and physically, and has no prostatic trouble, although he contracted gonorrhea twice in his early life. "In fact, he is a perfect specimen of manhood, save for the impotence. He claims that he can accomplish the act several hours after going to bed." Now, our correspondent goes on, "why should this faculty fail, while all else is normal? There is no lack of semen, for he states that sometimes, failing to have an erection, there is a discharge of semen under the excitement."

You ask us, doctor, not to say that "partial impotence is to be expected in a man of seventy." But we do assert, unqualifiedly, that under the circumstances your patient has every reason to feel gratified at his present condition, the more so, as he has had gonorrhea twice. As we have so often pointed out in these columns, men vary materially. There are, if we may so express it, "basswood men," "pine men," and "oak men"; but every individual must sooner or later begin to decline, and nature very wisely first diminishes the desire, then renders it impossible for the decaying individual to reproduce his kind.

We are aware, of course, that men have (presumptively) become fathers at the advanced age of eighty years; on the other hand, we have seen large numbers of men practically impotent at fifty. Moreover, we have had occasion to observe the children begotten of some very old men, and they were not pleasant objects to contemplate. Let us go a little further. A man of seventy living with his wedded wife naturally would have a mate whose sexual life has ended; and a septuagenarian is not a desirable mate under any terms whatever for a young or a still sexually active woman. There is more or less degeneration of the arteries at this age, and you must know, as this writer knows, that some of the startling "sudden deaths" of old men have occurred during cohabitation with young women.

"Man has his spring, his summer, and his winter," and it is impossible, even were it desirable, to stay the procession of the seasons. It is true that a good heredity and normal living in the springtime of life may prolong the summer, or even enable the individual to enjoy a species of Indian summer, but the powers will fail, the artieres harden, and cell reproduction cease. Thinning hair, falling teeth, imperfect digestion, and waning strength warn men of the approaching end. He who is wise will conserve his strength and realize that, even were it possible, it is not desirable to reproduce when he can never live to protect his progeny, which, moreover, inevitably would be physically handicapped.

Cohabitation without intent of reproduction in a man of three-score years and ten is, to say the least, undesirable. He has had his seed-time and his harvest, and it is evident that the Great God has been extremely good to him or he would not be alive and able even to contemplate such procedure. However, we are fully alive to the fact that each individual has his own ideas upon this subject. All the physician can do is to point out the most desirable and safest road.

The mere fact that there is desire does not prove physical capacity; in fact, the existence of desire in men of this age may evidence some pathologic condition; and to stimulate still further this erethism is like throwing oil upon a dying fire. The burst of flame which follows may be bright for a few moments, but in a very short time all available fuel will be consumed, and with a last flicker the fire will die out and nothing remain but the cold ashes.

The most effective remedies for your patient under the circumstances, would be nucleinated phosphates and neuro-lecithin. The use of the faradic current and alternate cold and hot sponging of the perineum might also be tried.

The American Journal of CLINICAL MEDICINE

Vol. 20 JUNE, 1913 No. 6

The Therapeutic Value of Rest

ABOUT twenty-five years ago Hilton published a small work, entitled "Rest and Pain." A book of inestimable value, it set many a doctor to thinking. It showed how in many instances Dame Nature possesses the means of curing if not restrained by interference. From that book we date the general use of bandages and other supportive measures in treating leg ulcers, to prevent traction on the newly forming connective-tissue fibers.

The time may come when state examining boards will ask candidates about the nature and causes of pain, instead of questioning them about the commercial production of acetanilid, the active principle of croton oil, the therapeutics of rubidium, or the aerobic bacilli that become anaerobic. When they do, teachers of the science and art of therapeutics may be encouraged to go into these basic principles underlying the intelligent application of the art.

Pain in itself showed man better points for therapeutic attack, although it is that which leads patients to apply for our help. I well remember the stormy night when, after successively increased doses of morphine failed to give relief, I ventured out and reached my patient just in time to remove some adhesive straps from a "rheumatic" testicle and thereby saved him from an impending gangrene and myself from professional ruin. The instant cessation of the pain when the last encircling strap was loosed gave me a never-to-be-forgotten lesson. So, in after years, when recognizing the pangs of pressure from the pent-up pus of an abscess, an ulcerated tooth root, the blocked circulation of a hand from a malignant pustule on the arm, or in approaching senile gangrene, the therapeutics was directed at the cause of the pain rather than at mere relief.

A study of the intimate nature of pain shows that, setting aside the traumatic and certain other special forms, it is nearly always associated with spasm. Pains connected with the hollow viscera are due to spasm of the muscular fibers, even when traumatism is present. Pains of the neuralgic type are always associated with vasomotor spasm, and this element is manifest even in inflammatory conditions. The headaches of autotoxemia may be referred to vasomotor spasm induced by the irritation of the hemic toxins. The spasmodic condition of the muscular fibers in neuralgias is equally evident.

This explains why those who have investigated the nature of pain and its treatment invariably become enthusiastic over the mydriatics, dethroning morphine and elevating atropine to its sovereignty as the king of pain. Relaxation of the spasm brings relief, and atropine is a better relaxant than morphine. Besides, the mydriatics do not check elimination, lock up toxins in the system or lead to the formation of a drug habit. I have given hyoscine to a patient, who had shaking palsy, for ten years without having to increase the original dose of 1-100 grain.

Hyoscine is even better as a pain-reliever than is atropine, since the former relaxes the vasoconstrictors, while the latter stimulates the vasodilators. Hyoscine is also directly anodyne; at least it vastly enhances the pain-assuaging power of any anodyne with which it may be administered. The best example of this is the well-known hyoscine-morphine-cactoid combination, in which the anodyne power is vastly in excess of that possessed by any one of the three constituents when taken separately. This is the most effective queller of pain as yet presented, greatly excelling the popular chlorodyne, although combined along closely similar lines.

I have recently experienced the remarkable power of this excellent combination in relieving post-operation pains. Having had a tooth extracted, a root was left that resisted a ten-minutes' effort on the part of the leading Chicago specialist to extract it—for nine minutes of which I was out from the gas-anesthesia. The pangs became unbearable, until a half-strength dose of the sedative combination quickly and permanently subdued them.

Frequently, however, there are grave objections to the use of morphine in any dosage; and when the pain is spasmodic we may properly omit the opiates. Directing our efforts at the spasmodic factor, we think of glonoin, the quickest and most powerful of relaxants. The extremely evanescent effect of this agent may be prolonged by the addition of atropine while its action is still further enhanced by associating strychnine. Not that the latter is in any sense anodyne, but, by stimulating the nerve-centers, it increases the vital reaction with any drug simultaneously administered.

The foregoing association of drugs gives us one of those triad combinations of which the effects are so powerful as sometimes to engender a little superstitious sentiment: the most famous prescription of ancient times and the most successful ones of today contain each three potent ingredients.

Sleep is so unavoidable that when it is absent there is always an appreciable cause. The height of folly lies in ignoring this fact and to endeavor by crowding hypnotics, to smother the voice of nature calling attention to a definite peril.

One of the most beautiful examples of really scientific therapeutics is to give digitalis when insomnia depends upon cerebral vasomotor paresis, associated with weak heart. Digitalis tones the cerebral vessels so that they resist the influx of blood when gravity favors it, and sleep ensues. How many sudden deaths, how many incurable central affections might not be averted were each instance of insomnia traced to its cause.

In a suggestive article printed in *The Therapeutic Gazette* for February 15, that accomplished clinician, Otto Lerch, of New Orleans, calls attention to the vasomotor conditions involved in rest. This paper is notable in that it is probably the first time this fundamental condition has been studied. It also emphasizes our own condition of the far-reaching application of the vasomotor relaxants, and their beneficial influence over nutrition.

In truth, as Lerch says, "Rest in the recumbent position is the most powerful prophylactic and therapeutic agent we possess." The slowing of circulation and respiration, as well as the general relaxation, allows engorgements to subside, the surplus blood drains away into the general circulation, and equilibrium is restored.

The problem of rest for a suffering part is a complex one when we are dealing with a vital organ. The inestimable value of Weir Mitchell's skim-milk diet in the nephritides is obscured by the failure of most doctors to comprehend that milk has not a particle of curative value. The essence of the method lies in the diet sustaining life, while securing physiologic renal rest by abstinence from all other food.

In pleurisy, we put the thorax in splints in order to rest the inflamed parts. In neuralgia, we combine rest with massage and faradism. In enteritis, we splint the bowel with opium. In every instance we seek to secure freedom from motion for a part disabled by disease, so that the healing processes may have a chance.

Everybody knows—and some very few do obey—the law that prescribes a period of rest to the digestive apparatus, after its duty has been performed. It is one of the wonders of nature that our stomachs so long withstand the abuse we inflict upon them.

The question of rest to the man who approaches old age is so important that I have treated it separately in another article. But there is one more aspect of rest to which some consideration must be given, and that is, its abuse. I wonder that some devotee of golf has not sought to connect the spread of that infection among the wealthy with the development of powers of the human brain, as shown in the stupendous aggregations of capital and power in recent years. The billionaire plays golf—*ergo*—?

A writer in *The Lancet* asserts that the exercise of the arteries consequent upon varying states of physical rest and activity, of satiety and hunger, is essential to their wellbeing; and that the scleroses of age are due to the lack of such exercise as will alter frequently the caliber of the vessels. Lacking this, they lose dilatability and contractibility, and the victim begins to realize that he is "as old as his arteries."

The Greek abhorred fatness, as offending his esthetic sense. We who would prefer living in health and usefulness to ninety, instead of dying from old age at sixty, dread undue corpulence as threatening our hopes of longevity. Yet, it is safer than undue thinness, according to the actuaries.

Rest! Forgetfulness! Nepenthe! Oblivion! Unconsciousness! For this the drunkard craves; for this the narcomaniac surrenders all else life proffers of desirable. For this the smoker turns to his weed. For this the Oriental finds solace in hasheesh. To shut out the cares and sorrows of humanity, the world and its disappointments, to float away on a dreamless sea into unconsciousness, is the longing of humanity, without once realizing that the final crowning consummation of the wish is Death.

If you have built castles in the air, your work need not be lost; there is where they should be. Now put foundations under them.—Thoreau.

SAUL ALSO AMONG THE PROPHETS!

It is a common matter of history that every worth-while movement is destined to pass through three stages, which succeed each other with unfailing regularity. First there is the period of ridicule, when the innovation is looked upon as a joke (a poor joke, at that) and its author as a misguided idiot, and the mere mention of the subject brings a contemptuous smile to the complacent lips of smug conventionality.

And the movement keeps on growing!

Next comes the period of attack and opposition. Smug conventionality begins to lose its complacent sneer and to grow uneasy. Constituted authority looks askance at the threatened disturbance of its dignified repose and frowns its displeasure upon the innovation. It says: "This impudent thing is becoming annoying; we will take an afternoon off and annihilate it." Finding that the "thing" is not killed so easily, constituted authority forgets its dignity and waxes very angry, not to say excited, shrieks loud and frantic warnings against the "menace" of the innovation, and puts in motion every engine of prejudice and passion, prestige and politics, to compass its destruction. All of which, while it puts the new movement to a most severe and trying ordeal, seems after all to be a wholesome process, upon which it actually thrives and strengthens.

And the movement keeps on growing!

Last comes the era of triumph, when at length the new movement justifies itself, and stands vindicated by the very agencies that opposed and fought it. And this is the strangest phase in all its strange, eventful history. For how, and in what fashion, does this vindication come? Is there, by any chance, a public acknowledgment of the wrong, and an equally public crowning of the right? Does constituted authority, think you, gracefully admit its error, and graciously speak up: "We have misunderstood and misrepresented this man and his movement; now we will make amends; sit thou on our right hand until we make thine enemies thy footstools"? Not that history ever recorded. Nor must any innovator ever look for such a denouement. Whatever triumph he experiences must be in his own soul.

This is the way of it. When neither ridicule, nor suppression, nor opposition is found sufficient to hinder the growth or prevent the final triumph of the new movement—as neither will, if the new movement be grounded in the truth—when it becomes evident that the new movement, now new no longer, will inevitably take its place among the accepted institutions of the day; then constituted authority, with characteristic assurance, coolly appropriates the victorious propaganda, stamps it with its own insignium, and, with hand on heart, smilingly receives the plaudits of the admiring crowd.

What is the occasion of this little outburst of philosophy? For answer, we refer our readers to an editorial in *The Lancet* for March 28, entitled "The Relation Between Galenical Preparations and Their Active Principles," which we have reprinted on another page in this issue.

Well, well, there is no use in complaining, and we solemnly declare that there is not a trace of bitterness in our philosophic homily. We are merely consoling ourselves with the reflection that we are not the first—nor shall we be the last—to undergo this rather anomalous experience. And, after all, there *is* a good deal of genuine, inward elation in the tardy recognition, from such a quarter as the British Pharmaceutical Society, endorsed by such a journal as *The Lancet*, of the pharmacological principle which we enunciated as the basis of our campaign more than twenty years ago, and for which we have persistently and consistently fought, in the teeth of ridicule and authority and opposition, through all the intervening years.

Whatever may be the detailed pros and cons of Dr. Jowett's momentous communication, discussed by *The Lancet* in the editorial referred to, it is, upon the whole, a triumphant vindication of active-principle pharmacology and therapy, from what is perhaps the most conservative source in the world. As such we soberly accept and promulgate it. We have no idea of going into ecstasies over it. Whatever justification and credit it reflects upon us and our work is ours by simple right. And especially such justification and credit belongs of right to the principle for which we have stood.

This utterance of Dr. Jowett's indeed, is but the beginning of a tribute of unreserved assent which must, and will, ultimately establish a principle so reasonable.

Amidst applauding cheers, I won a prize.
A cynic watched me, with ironic eyes;
An open foe, in open hatred, sneered;
I cared for neither. Then my friend appeared.
Eager, I listened for his glad "Well done."
But sudden shadow seemed to shroud my sun.
He praised me; yet each slow, unwilling word
Forced from its sheath base Envy's hidden sword.
Two-edged, it wounded me; but, worst of all,
It thrust my friend down from his pedestal,
And showed him as he was—so small, so small.
—Ella Wheeler Wilcox, in National Magazine.

THE TOXEMIAS OF PREGNANCY

We have repeatedly expressed our belief that the toxemia of pregnancy was largely due to fecal retention and absorption. We have never said or believed that this was the only factor of this group of maladies, but called attention to it especially because we knew it to be frequent and too generally overlooked. Moreover, no treatment can be considered satisfactory that does not begin with complete emptying and disinfection of the alimentary canal, if it needs it—as it usually does. But there are other considerations, and the group of maladies embraced needs study as a group rather than as a single disease.

The future may show that the secretions of the ductless glands are involved. Glycosuria is sometimes to be attributed to hypersecretion of the pituitary body, at other times to true diabetes or to the failure of the liver to store glycogen. In the latter case, we have toxemia, headache, neuritis, muscular twitchings, etc., most of which we may attribute to fecal toxemia, since it subsides when the bowels are emptied. Vomiting of pregnancy is always to be looked upon as pathologic and requiring treatment. Glycosuria disappears when the patient is placed upon a diet free from meat. Even the mildest cases may later develop into more serious forms.

On the other hand, one need not err by attributing everything to toxemia. Vomiting of pregnancy has been stopped by applying iodine to the uterine cervix, and also by dilating the latter; and when fissures of the cervix are found, any curative measure applied locally will also cure the vomiting.

PLAGUE PROPHYLAXIS IN CHINA

A German navy surgeon tells how he kept the plague out of Kiaochau, the Teutons' look-in in China. The boundaries were guarded by a barbed-wire fence with 300 men back of it; the water-front, by guard-boats and searchlights. But one opening for admissions was left. At the market buyers and sellers were separated by two wire fences five feet apart. All incoming travelers were examined at quarantine and detained under observation for five days. Trusty persons then admitted had to report daily for five days more. Doctors, attendants and sextons were protected with motor-goggles, cotton-masks over the nose and mouth, a hooded suit with gauntlets, and long boots. On leaving the ward, a spray of sublimate solution was applied and the clothes were well brushed. The suit was then shed and soaked into an antiseptic lotion. Then he was allowed to go free.

ANTINARCOTIC LEGISLATION

There is urgent need for legislation to curb the growing use of the habit-forming narcotic drugs in this country. We have repeatedly called attention to this matter, and have recommended that every physician do all he can to bring about the passage of proper laws designed to curtail this dangerous traffic.

Last month we gave a digest of a bill drafted by the National Drug Trade Conference at its last session in Washington, a bill which seems well adapted to secure the desired results. If passed, the law would involve a certain amount of hardship to the medical profession. Thus, every doctor would be compelled to take out a federal license and pay an annual fee of one dollar. He would be subjected to inspection by government officers, and, if his purchases of morphine, cocaine or their congeners and compounds were large, he might be called upon to explain. However, the decent members of the profession necessarily must be prepared to submit to some inconvenience that the few scalawags may be hunted down and driven out of business.

Therefore, again we urge every reader of this journal to accept this bill, and all similar state bills, which he knows to be right, working for their passage and tendering all possible assistance in their rigid enforcement.

Yet, while we approve of proper antinarcotic legislation, we must warn you that insistent efforts are being made to hang upon these bills certain provisos, so cleverly worded that their meaning and intention may be obscure to the casual reader, the effect of which would be to strike a bodyblow at physicians, and especially at those who dispense their own medicines. When such "jokers" are uncovered their advocates defend them with a casuistry that may be convincing to any person who cannot see through and beyond the specious reasoning that the real purpose of these cunningly framed sections is to "get" the doctor who dispenses his own remedies.

For instance, since the Drug Trade Conference bill was framed, with the complete concurrence, as regards all its details, of fourteen out of the fifteen delegates, the proposal has been made to amend it by a clause that would require every dispensing physician to keep a record, not merely of his purchases of remedies containing narcotics (as the bill now provides) but also of all these drugs and all their mixtures and compounds that he may administer or dispense. Every cough tablet, every diarrhea tablet, every dose of "cholera mixture," every hypodermic dose of morphine would have to be recorded, and the doctor would be involved in a burdensome detail, the neglect of which might involve him in prosecution by the government, and which surely would mean more or less persecution by unfriendly individuals in the drug trade.

Similar antinarcotic bills have been introduced in a number of states—for instance, in Indiana, Illinois, Iowa, Michigan, Florida, Nebraska, and Texas. The peculiar thing about them is that they all have this "joker" in them. As will be readily understood, the purpose of all these special provisos is to make dispensing by the doctor uncomfortable if not dangerous.

Our advice to you is to—watch them! Go a step further, and help frame up really effective antinarcotic laws—laws that are absolutely fair to *every* party concerned—druggist, doctor, and the public—and take off your coat and see that they are passed. Here is a work that is worthy of the interest and the action of every county and state medical society in the country.

We want a model law, not a law that has been "fixed" in the interest of any person or any class of men. The medical profession will not object to carrying its full share of the burden, but it does object to be being made the "goat."

We shall be very glad if such of our readers as have given or will give this matter special thought will submit to us drafts of really model antinarcotic laws. Do not do it hastily. Get copies of the bills that have been submitted in legislatures, give them careful study, and then let us see what we can work out. We want to hear from you.

If you are going to keep ahead of your competitor you must read and study. You have already forgotten more than you remember of what your college professors taught you. You can only keep up your efficiency by reading.—The Willows Magazine.

LATIN-AMERICAN POLITICS

Our difficulty in dealing with our Spanish-American neighbors is, that we persist in looking upon them from our own standpoint instead of from theirs. The Anglo-Saxons came to the New World in search of freedom; and with the purpose of founding here their homes. The fortune-hunting American Spaniards had no other thought than that summed in the one word—loot. From Cortez and Pizarro, Alvarado and Balboa, to many of their latest descendants, this ideal has prevailed.

The game is perfectly clear and easy to comprehend. The robber-chief fights his way to leadership and seizes the reins of "government." While in office he amasses a fortune and places it securely in the banks of Europe. When he has gathered enough the next leader arises, and the deposed "Presidente" makes his getaway and proceeds to live happy ever after on the spoils of his plundered country. Usually the thing is a "put-up job," the retiring and incoming leaders understanding each other perfectly, no obstacle being placed in the way of the former's safe retreat.

The cry of the rebel is always "liberty" and reform. This sounds well and always appeals to the big fellow north of the Rio Grande. It has no meaning whatever to the native. He is interested, because he expects to share in the rewards, or to be plundered to supply them. The few really patriotic citizens are lost in the undeveloped multitudes.

Costa Rica stands out as a notable exception. A true republic, for many years she has been ruled by officials elected by a majority of her citizens. Prosperity has prevailed and property is worth far more in Costa Rica than in any other of her sister states. In return for this, she is looked upon with supreme contempt by others. Under the wise administration of President Cabrera, Guatemala also has developed a clean and efficient government, and her people are making great progress, in spite of her debt-contracting proclivities.

Naturally, the revolution-making brigands wish to be let alone. Any attempt on the part of the United States to intervene in behalf of decency and right is met with the allegation that we seek to absorb their country. Except the robbers themselves, everybody concerned would be only too glad if we did; and the simple rumor that such a step was contemplated would send values in a given state a kiting. But we are so fearful of being suspected of interested motives that we "fall" for the plea and allow disorder and riot, bloodshed, and looting to go on unchecked.

Quite naturally the leaders in many other Spanish-American states sympathize with the Mexicans. They are in the same boat. How many of these "republics" are governed today by the leaders of successful "revolutions"? Name those in which three successive presidents have been elected by the people.

With Madero the case was different. He had his millions already, and he was an honest, really patriotic man; so he failed to play the game under the ordinary rules, did not make a "getaway," and was shot.

It is time we began to realize that we have duties toward our neighbors, and that there are considerations higher than the question of "what the people might think."

Serve notice on these states that disorder and looting must cease and the will of their peoples must rule. Tell them flatly that if they can not govern themselves we will. Do as we have done with Cuba. Give the patriots every chance to accomplish their work, and give them time to establish systems of general education. Let industry revive and natural resources be developed under the rule of enforced order. The scars of war would soon be hidden by the plenteous results of industry and peace. Then, if the people did not realize their blessings and that they were worth preserving, it would be high time for some other power to step in and do the governing.

Read Dr. Hollman's article upon the Mexican situation, printed in the Miscellaneous Department. It will help you to understand the chaotic condition south of the Rio Grande.

The secret of success is constancy to a purpose.—Disraeli.

A PERSONAL LETTER—JUST A REMINDER

Dear Doctor: Please consider this a *personal* letter. I know you want CLINICAL MEDICINE and will not willingly miss a single copy; but you haven't told me so—and your subscription expired two (or was it three?) months ago. Won't you write at once and let me know your wishes?

If convenient (and I hope it is) enclose the amount due. But should it be difficult to get your hands on the necessary two dollars immediately, let me know that, and we shall be most happy to give you additional time. The essential thing is to let me know.

Haven't you medical friends who would enjoy CLINICAL MEDICINE? I am sure you have. Wouldn't you like to help *one* of these to get acquainted with it? You can do so without expense to yourself. If when you send in the two dollars for the renewal of your own subscription (or for a new one, if you are not already a subscriber) you will give me the name and address of that friend you can present him with a year's subscription, with your compliments. Don't forget to send me his name.

I shall expect to hear from you next week. Please do not disappoint me.

Fraternally yours,
W. C. ABBOTT.

TETANUS!

Of course this warning is superfluous—you know all about "lockjaw"; you know how likely it is to occur after Fourth of July wounds; you know that any punctured, lacerated, ragged or contused wound of the skin, exposed to contact with street dust and liable to pus infection, supplies the exact soil necessary for the multiplication of the tetanus germ; and you know that *tetanus, once developed, usually kills.*

Of course you know all this, and I do not need to deliver a homily on the dangers of the toy pistol or the rusty nail. But do you keep sufficiently in mind the methods of preventing tetanus? It can be prevented, and the doctor who does not use the proper prophylactic methods, in cases where there is any possibility of the development of this terrible disease, is certainly culpable.

Two things you should do when called to treat a suspicious wound:

First, see that it is open to the air and free drainage secured; under no circumstances apply an impervious dressing.

Second, give tetanus antitoxin, 1500 to 2000 units. Don't wait for premonitory symptoms. Give it at once. Your pharmacist should keep it in stock, but if he doesn't, have a supply of your own for emergencies. With most manufacturers it is exchangeable.

If every physician would attend to these two simple precautions there would be no tetanus, except among the unwise persons neglecting to call a doctor.

THE PRACTICE OF MEDICINE—IN 1924

A recent number of this journal contained a communication in which its writer traces my editorials suggesting a new relation of the profession with its clientele to the socialist movement. If this be correct, it is an instance of how a sentiment gets to pervade a community without consciousness of it. I am no socialist; I have given too little attention to the socialist movement. Yet, my own observations and deductions have led me to advocate a change that is in line with their ideals.

My conclusions are based upon the facts that the American people require far more of the medical profession than does the European peasantry; that men can not afford to be disabled by illness, in view of the pressure of the present struggle for existence; that the time has come for the practical application of that preventive medicine that has been so long the theme of the essayist; and that the way to reform is to reform.

I am far from taking credit for priority in inaugurating this movement. It is one of those inevitable things that must occur to the minds of many men simultaneously, for the concatenation of circumstances that develops the ideal in one must do so with others. But innovations are sure to shock the sentience of some, and to arouse opposition. How well the early advocates of the "modern germ theory" were verbally trounced for pushing their idea to absurdity; and, yet, now there are apparently no limits to its application.

That the change suggested is "in the air," may be inferred from such publications as that of Doctor Richard Cabot, quoted by *The Boston Post*. Speaking on "Pressing Problems of Public Health," Dr. Cabot said that at the University of California 7000 students were taken medical care of in ideal fashion at a small hospital. For group diagnosis and group treatment each pays $5.00 a year, making $35,000 annually for the entire student-body. From this sum the attending doctors are paid "good salaries." That must mean more than the average income of the American doctor, for he collects only about $700 a year—and that is not a good salary.

Dr. Cabot goes on to say that "preventive medicine is the only way really to check disease;" and he suggests that at present we make diagnoses of the ailments of the school-children but do not treat them. "It is like aiming the gun and never firing."

Surely! But why stop with the children? Why not take in the working men? The whole community? Why a level rate of $5.00 each, when some can pay more and, still, not feel the payments a burden?

Apply this matter individually. Sit down and calculate your clientele, divide them into classes, as each is able to pay, from ten cents to one dollar, or even more, each month; and see what your settled salary-income would be were they to agree on such a compromise. You will be surprised at the result. Then talk the matter over with them. Most people would willingly pay a small monthly sum as an insurance against doctor-bills. Place your business relations on such a basis, and you may then begin to practice preventive medicine, writ with big capitals.

Don't hunt after trouble, but look for success;
You'll find what you look for; don't look for distress.
If you see but your shadow, remember, I pray,
That the sun is still shining, but you're in the way.
Don't grumble, don't fluster, don't dream and don't shirk.
Don't think of your worries, but think of your work.
The worries will vanish, the work will be done;
No man sees his shadow who faces the sun.

INTESTINAL STASIS AND AUTOINTOXICATION

The noted English surgeon Dr. W. Arbuthnot Lane said recently in a clinical lecture on chronic intestinal stasis, which was printed in *The British Medical Journal*, May 4: "It is only the other day that most of the leading physicians in Great Britain scoffed at intestinal stasis and autointoxication and their results. Now, on the other hand, the progressive scientific observer has recognized autointoxication as an important—if not, perhaps, the most important—factor in the production of disease."

Doesn't that doctrine sound familiar to readers of CLINICAL MEDICINE?

Life is not so short but that there is always time enough for courtesy.—Ralph Waldo Emerson.

THE PREVENTION OF TYPHOID FEVER

In one of its excellent *Bulletins*, the Illinois State Board of Health gives the precautions recommended to prevent the spread of typhoid fever. Here are some extracts:

"The war against typhoid fever must be fought at the bedside of the patient." Surely, since the germs of the infection are given off in the discharges from bowels, bladder, nose and mouth. So that these excreta must be so disinfected as to destroy the infecting germs before they leave the sickroom. We would go a step further and destroy them as largely as possible before they leave the patient, but the profession has not as a body realized the importance and the possibility of this as yet. However, we may rest content to have this maxim acknowledged, that if every doctor were to see that every typhoid discharge were really disinfected that disease would soon be wiped out of existence.

"Typhoid fever is in all cases caused only by the germs being swallowed. It is caused in no other manner."

"Infected water is the chief source of typhoid."

"Milk infected with typhoid germs is also an important means of carrying the disease."

"Flies also spread typhoid fever."

"The disease may be conveyed by the person attending the sick."

"Typhoid carriers may scatter the disease."

"In this work, Boards of Health can do little, unaided by the family physician. Upon him rests the responsibility of seeing that thorough disinfection is carried out in every case of typhoid fever he may be called on to treat."

Very plain, sensible expositions follow upon water, flies, milk, and other foods; also a brief statement in regard to antityphoid vaccination. Details are given of the technic necessary to stop the spread of infection. "Every case of socalled typhomalarial fever and every fever of doubtful origin continuing more than seven days, should be reported and the same precautions taken." For fumigation the permanganate-formaldehyde method is recommended and well described.

The same *Bulletin* contains the official rules of the Board concerning the prevention and suppression of this fever, extracts from the laws bearing on this subject, sanitary advice for summer tourists and keepers of summer resorts by Dr. Rucker, Major Russell's statement of the results of antityphoid vaccination, and some aphorisms on the fly.

We do not give this valuable *Bulletin in extenso,* not because it does not merit the space but because copies may be had for distribution by applying to Dr. Egan, secretary of the Board.

Yes, every word of this is an old story, and well known to every reader. Why do we give it space then? Because typhoid fever still exists; and the only reason for its continuance is the neglect of physicians to act upon the knowledge herein given. We must keep at it until every member of our profession has been aroused to his duty.

THE NEW "PREDESTINATION"

A friend of mine, the other day, expressed to me a fear that, I confess, had more than once haunted my own mind, and which doubtless has whispered itself to many other thinking men: the fear that the doctrine of heredity, as science now teaches it, will paralyze faith, deaden enthusiasm, crush effort in the individual man.

If, as the modern science of heredity asserts (and seemingly rightly asserts), a man is hopelessly and inescapably hemmed in, circumscribed and limited by the elements of his germ-plasm, what is to become of his faith in himself? If science is to give us back, in terms of biology, the old bugaboo of predestination which theology once fastened upon us in terms of religion, what is to become of free will—not the theological *doctrine* of free will, but the practical vital *power* of free will, the belief in one's ability to rise above birth and circumstances and to conquer them—by which all things were made that are made?

This is the spectre that is staring every thoughtful man in the face, and it must be squarely met and reckoned with. Science has a cold-blooded, remorseless way of pressing home its truths, regardless of their effect, and we who stand for the human side of life must accept them without wincing, and humanize them as best we may. We cannot evade them or sidestep them, as the old theologians used to do, by sheer denial or by weight of ecclesiastical authority; and, indeed, experience ought to have taught us by this time that truth, scientific and otherwise, however formidable or threatening its aspect, is never destructive, but always constructive, and needs only to be put in its proper viewpoint to display its humanizing value.

So, in this matter of which I speak, the wise man will not attempt to escape pursuit by the foolish plan of hiding his head in the sand, but will stand his ground and meet the issue. The question, at all events, is a real and serious one, whatever may be true of the problem it contains.

How shall we tell a man that his physical and mental and moral life are bound up irrevocably and unalterably in his ancestral heredity, his temperament unchangeable, his entire career, almost down to its minutest details, marked out and limited for him; that even the character and career of his children are hopelessly predetermined by his own parental influences? And then, in the next breath, how can we consistently bid him strike off the shackles that bind him, bid him come out of the grave-clothes of superstition and be a free man? Nay, more than that, in the face of such a hopeless doom, how shall we even arouse him to do what may be done within the narrow limits of that doom?

Now let *us* do the looking in the face. Suppose some one should say: "It is true that every man and every woman in the world must die; but we may not proclaim this truth to those who eddy round and round—nay, only to the elect few whose minds are strong enough to bear the shock must we confide the truth."

Here, I think, is almost a parallel case. Every human being lives momentarily under an indeterminate sentence of death. Man knows not just when the ax will fall. He does know, though, that, without a doubt, it *will* fall. Indeed, this is the one thing in his life that he knows for certain. It is the one inescapable doom that comes alike to him and every human being.

Yet, I venture the assertion that, barring a few of morbid temperament, no thought or word or deed in any person's life is influenced in the slightest degree by the knowledge of this "sword of Damocles" ever hanging over his head. The fact of the matter is, so far as his own inner life and conduct are concerned, no man believes in death, except for others. He himself is never going to die. This is nature's wise provision against the paralyzing, enervating effect of his knowledge of death.

Nor is that all! By his persistent refusal to entertain a belief in death he is actually able to oppose to death itself a set of forces which to all intents and purposes conquer and destroy death. And, so, while death itself, as a physical occurrence, remains an unalterable fact, the *fear* of death and the *influence* of death are but disembodied spectres into whose eyes men have learned to look and laugh.

I think the same thing will prove true in regard to this awful spectre of heredity. The fact will be that the average man, however his *intellect* may assent to the startling truths of biology, will not in his *heart* and *conduct* vitally believe them. I mean, that they will not consciously influence his thoughts or words or deeds, any more than the advice and experience of the older man influences the enthusiasm and ambition of the red-blooded youth.

Teach a man's *brain* ever so conclusively that his life is bound in impassable limits, his *heart* never will believe it; and, perhaps—who knows—in this, as with the fact of death, his vital disbelief may set up a real and powerful train of forces the ultimate effect of which will be to vanquish, and even to cancel, those influences of heredity which science declares to be irrevocable.

The practical lesson for us who deal, not only with sickness, but with sick people, is, that, while we reverence these inviolable truths of heredity and guide ourselves by them, we need not and must not permit them to make us fatalists. After all, there are other forces in life besides heredity. And it is with these benign forces that the physician must align himself.

However fixed or irrevocable the biological aspects of disease may be, it is the business of the physician to war upon it unceasingly in its clinical aspects, just as we do upon moral evil, in spite of the "Q. E. D." of philosophy that moral evil is inherent.

There is a cross and a redemption in science, as there is in religion; and, *in hoc signo vinces!* There really is nothing more blighting to progress and endeavor in the phenomenon of heredity than in the phenomenon of death. Sooner or later, paraphrasing the defiance hurled at that arch-enemy who stands at the end of life, it may come to pass that, perhaps, we shall boldly cry out to that implacable doom that stands at life's portal:

"O heredity, where is thy sting? O chromosome, where is thy victory?"

> Nobody who cannot speak the common thought, who does not move by the common impulse, is the man to speak for America, or for any of her future purposes. Only he is fit to speak who knows the thoughts of the great body of her citizens, the men who go about their business every day, the men who toil from morning till night, the men who go home tired in the evenings, the men who are carrying on the things we are so proud of.
>
> —Woodrow Wilson.

SUMMER IS COMING. PRIZES

Yes, summer is coming. So are the summer diseases, and we should be discussing them. The purpose of this brief editorial is to persuade as many as possible of our readers to send us *at once*, for use in the July, August and September numbers, short items giving experience in the treatment of hot-weather ailments.

We do not want "articles"—that is, not particularly, though if you have something good we want to see it. But we do want as many as possible to tell us in fifty to two hundred words (of course you may take more if you need to) just how you treat such common things as infantile colic, diarrhea in babies, cholera morbus in the older members of the family, indigestion, acne, snake-bites, mosquito-bites, lockjaw, urticaria, intertrigo, sunburn, malaria, teething—in fact, anything that may occur during the heated season.

Just to make it interesting we will give prizes, of $3.00 for the best item, $2.00 for the second, and $1.00 for the third; these to be awarded during July, August and September. Every other physician sending us an item that we can use in this symposium will receive a valuable book—worth from 50 cents to $1.00.

Everybody is invited to participate in this symposium—non-subscribers as well as subscribers. "Come on in, the water's fine!"

FATIGUE-POISON

The ever-ready quack seizes upon this matter of fatigue-toxins and makes of it an appeal to the public to seek his aid. Hear: "Fatigue means poison. Every muscular and nervous impulse causes the burning of vital fuel, and the ashes resulting are carbon dioxide, a deadly poison. Fatigue is simply an indication of an excess of this poison in the system."

This clears Weary Waggles, Dusty Roads, and the whole fraternity of modern peripatetics, and the holdups and get-rich-quicks, and all the gentry who seek to exist and enjoy without work. Just rest; and when the old woman falls under the weight of fatigue-toxins, get another wife!

THE CURABLE FORMS OF ANGINA PECTORIS

What is angina pectoris? In truth, nobody knows. If one doubts this, he has only to review the pathogenic theories upon this malady. Neuritis of the phrenic nerve, neuralgia, coronaritis, aortitis, intoxication, distention of the left ventricle, all these, and many more, have been invoked by the pathologists. But, neuritis one has not always found, neuralgia is not anatomically recognizable, narrowing of the coronaries and aortitis frequently exist without a concomitant angina, of all the intoxications there is only the tobaccic that causes anguish, and they are not in accord as to distention of the ventricle.

Fiessinger divides anginas into six categories: Angina by coronarities, angina of aortitis, of myocarditis, of interstitial nephritis, and of the obese and the aerophages. However, the accuracy of this division imports little; what interests us is the therapeutics it initiates.

Fiessinger studied 80 cases, and he says: "All these offered the primordial character of angina-pectoris provocation of the pain and the sense of anguish under the influence of walking or of effort. An angina where the pain and anguish awaken under walking or violent muscular contraction announces a myocarditis of the left ventricle. At the moment when fatigue lowers the faculty of vanquishing peripheral resistances the crisis declares itself. But a great number of patients with insufficient myocardia do not suffer from this pain. A nervous element must intervene, which can be brought into play by causes—toxic, infectious or moral—which must not be neglected. Patients must then be protected from emotion, from fatigue, and be examined carefully for reference to a thermal station."

In the treatment we may consider: (1) medication, general and particular, and (2) the therapeutics adapted to each case.

The general treatment consists of the administration of the nitrites—amyl nitrite by inhalation, tetranitrol, glonoin (3 or 4 drops daily of a one percent solution), and morphine, 1 milligram every three hours, in the subintrant crises. To this add prolonged rest in bed and a special diet.

The patient should take a small meal every two hours, to avoid stomachal distention and to reduce to the minimum the work of the stomach. After 8 a. m. give, every two hours, 60 to 80 Grams of legumes or pastes, with 60 Grams of hot water; sugared things, fruits, cacao and milk, chicken, tender meats, according to the state of the kidneys. Hot water follows each plate of solids. Except in the subjects of syphilitic coronarities, the amelioration is immediate.

Coronaritis, like aortic insufficiency of arterial origin, almost always is recognized as of syphilitic origin. Always institute the Wasserman test. When positive, if the treatment is instituted in good time, the cure may be obtained in nearly every instance by effective treatment (some form of iodine), insisting upon rest at the same time.

In the myocardites, the anginous pain ceases when the heart dilates. This is a general fact, but not absolute. Rest is here a great factor in amelioration. Use also digitalin, 1-10 milligram three or four times a week, and theobromine, in doses of 1-2 centigram, twice a day, for a period of ten days. Treat also the nervous system.

In interstitial nephritis, the lactovegetarian diet, the system of small meals, rest in bed, with digitalin and theobromine administered as above stated, promises rapid relief.

Note this: If the patient by any effort comes to dilate the auricle, the angina disappears and there appears the murmur of functional mitral insufficiency.

The obese and aerophages usually are cured. This occurs especially—and remarkably quickly so—in the obese. As the emaciation cure makes them lose weight, the anginous accesses become less frequent and finally cease. Then combat the obesity by an appropriate diet, give theobromine for a period, and the cure, often definitive, is only a question of time. This is the case even when interstitial nephritis is also present, but here it is necessary that the patient should be prudent and shun all violent effort that might induce a crises, which might prove mortal.

The aerophages are nearly or always the young anginous. Every man under 45 years who is not syphilitic or aortic and who has dolorous crises provoked by walking may almost surely be considered an aerophage. Dyspeptics not infrequently have neurosic anginas, while the aerophages have crises of true anginous type, aroused by walking, the diaphragm displaced by gas hindering the cardiac functionation. In these two forms it is diet we must prescribe. The system of small meals is very efficacious, associating sodium bicarbonate and absorbent powders. Any other medicament is useless, if not injurious.

Every patient affected with angina pectoris, even the true form, can be cured, and this is a consoling thought. The unsatisfactory feature is the duration of treatment, since it may require from fifteen months to three years. The older the patient, the more certain the cure—we always cure them after seventy years.

Let us strive to live worthily, to do honest work for an honest wage where a wage belongs; but never forgetting that oftentimes the work which is best worth the doing, most profitable to us as well as to the world, carries with it no money wage.—Dr. F. C. Shattuck, in The Boston Medical and Surgical Journal.

PLEURISY IN CARDIAC SUBJECTS

Cruchet and Lautier have recently studied cases of pleurisy in cardiac subjects and report their observations in *Le Monde Médical.* They divide them into three groups:

1. In this group the pleuritic attacks occur in a healthy person and occasion disease of the heart, inflammatory or obstructive.
2. Persons whose hearts are already affected are attacked by pleurisy. The result depends on the degree of injury already sustained by the cardiac muscle. If this is slight the course is similar to that of pleurisy affecting healthy individuals. But, if the heart's force has already become impaired, the sudden additional strain may be beyond its ability to sustain, and the embarrassment, aided by the effusion, aggravates the suffering and the danger.
3. The heart disease may be the cause of the pleurisy, as when an acute endocardial inflammation extends to the pleura, directly or through embolism, or when in chronic cases the congestion affects the histologic elements of the pleura as well as those of the lungs. Such a condition offers a nidus well suited for tuberculous infection. Here also embolic infarctions may occur, septic or becoming such later.

The attack may be acute and open, or latent, the former indicating infarction. The signs and symptoms are those of noncardiac pleurisies except that the functional disorders are apt to be more pronounced as the heart disease aggravates them.

Much is to be learned from a study of the effused fluid. This is usually of a lemon-yellow color, of high specific gravity, and rich in fibrin and albuminoids. Its cytologic formula shows polynuclear cells or lymphocytes, with a few endothelial cells, the latter never in groups. The one invariable characteristic is Rivalta's reaction, always positive with inflammatory exudates: Into a test tube containing 50 Cc. of ordinary water pour a drop of an aqueous solution of anhydrous acetic acid, 1 in 2; after shaking this test solution carefully add a drop of the fluid to be examined. If inflammatory it gives a number of bluish-white opaline striæ, which slowly settle to the bottom of the tube. These resemble smoke spirals from a cigarette. If the fluid is merely transudative, as in hydrothorax, there are a few colorless striæ like those after pouring white syrup into water. A true exudation furnishes a coagulum soluble only in an excess of acetic acid.

The course of cardiacs with pleurisy is modified by the disease but not by heart-tonics. These, if administered incautiously, may induce complete heart failure through mechanical interference. The prognosis is not good, but may be bettered by very active treatment, removing the effusion as fast as it recollects and sustaining the failing heart.

IMPORTANT ILLINOIS LEGISLATION

Among the innumerable foolish and poorly digested bills introduced in our state legislatures, there are always a few that deserve the special approval and support of the medical profession. Such a one has recently been introduced in the Illinois legislature, the object of which is to prohibit "advertising to cure sexual diseases." This bill provides that—

> Whoever shall advertise in any newspaper, publication, magazine, periodical, pamphlet or by circular or form-letter, or cause to be distributed any advertisement in any form whatsoever to restore manly vigor, treat or cure lost manhood, stricture, varicocele, hydrocele, diseases of the genitourinary organs or any venereal disease, or to cure cancer or tuberculosis, shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine not exceeding one hundred dollars or by imprisonment not less than one month nor more than six months or both.

This bill also makes the editor or publisher of the newspaper or other periodical publishing such objectionable advertisements subject to fine and imprisonment. It is a good bill and should receive the united support of all the clean elements of the profession. Quacks naturally will oppose it.

Other bills less worthy of consideration are House Bills 229 and 299. These two bills create boards of examiners for the Osteopaths and Optometrists, respectively. The first bill is peculiar, in that it prohibits all, except those licensed by the board provided for in the bill, from practicing osteopathy. Under its provision, the regular physician would be debarred from using the socalled osteopathic manipulations! These two bills should be killed.

We have already called attention to the dangers in House Bill 210 (Senate Bill 241 is identical with it). This bill has one of those objectionable antinarcotic clauses intended to put the dispensing physician out of business. It should be amended prior to passage. This is a very important measure, and demands your attention.

Another measure affecting the profession is the Canaday Bill (Senate Bill 437), which provides "that any duly licensed physician and surgeon may dispense drugs and fill medical prescriptions in the same manner as registered pharmacists, if there shall be no pharmacy or dispensary, drugstore or apothecary shop within a radius or distance of eight miles from the place where such physician resides or necessarily prescribes for a patient." This is a little peculiar. It may be intended to permit a doctor to operate a drugstore "on the side," or it may be intended to prohibit him from dispensing medicines when nearer to a drugstore than eight miles. At any rate, the phraseology is a little obscure.

Yet another rather peculiar bill is one prohibiting physicians from doing surgical work unless they have a special surgeon's license. Whether or not this is the "first fruit" of the proposed "American College of Surgeons"—which is to have its headquarters in Chicago—we do not know. At all events, a law that would prohibit any *physician* from doing necessary surgical work, even if he did not pretend to the skill necessary to remove appendices, gallstones, and uteri, can hardly be expected to make a hit with doctors—who already are being hedged about by regulations of every kind, all of them having but one thing in common—to make the practice of medicine less desirable and less remunerative. The Chicago Medical Society has protested against its passage, and so should every other live society in the state.

Country doctors, particularly, should be alive to their own interests. These men lack "spokesmen"; they are not able to command "influence"—hence they may be made the prey to those interested in class legislation. Doctor, cultivate the acquaintance of your senators and members in the assembly.

Leading Articles

How Do Purgatives Act?

A Study of Drug Action

By **GEORGE E. PETTEY, M. D.**, Memphis, Tennessee

EDITORIAL NOTE.—This valuable drug study is a portion of a chapter in a book which Dr. Pettey has in preparation. It will be found filled with matter with which you should be familiar.

IN the opinion of the author, nothing connected with the practice of medicine is of such importance as is a thorough knowledge of the action of purgatives, a complete understanding of the physiologic laws upon which their action depends; neither is there a subject that is not more generally not understood.

The difficulty seems to arise from the fact that our medical teachers and writers take it for granted that everybody knows how to give a purgative; all the old women know this, and, so, certainly anyone presuming to take up the study of medicine should know that much to begin with. Therefore, the subject is not as thoroughly taught as its importance deserves.

In the author's opinion, there are but few men in the medical profession who understand the action of purgatives sufficiently to enable them to write for a purgative compound that will effectively and proportionately stimulate all the functions concerned in the evacuation of the bowel; and there are fewer, still, who habitually write their prescriptions so as to conform to that standard.

Purgatives occupy such an important place in the treatment of disease and have been and are so extensively used that it would seem that the principles upon which their action depends would long since have become a matter of common knowledge; but experience has convinced the author that such is not the case. In the healing art, so much depends upon the practical application of these principles that every physician should aspire to a complete mastery of them which will enable him to postulate upon them the physiologic effect of his drugs and thereby be saved from dependence upon the half-knowledge of empiricism.

The Nerve-Centers Govern Action

It should be remembered that the key to the secretory and motor activity of the intestinal canal, and of the glands emptying their products into it, are the nerve-centers. Success in any effort to secure evacuation of the intestinal contents depend upon the degree of success we have in arousing these centers to functional activity. Our success in that effort depends not only upon the condition of these centers, but upon the manner in which we attempt to approach them.

It appears that many of the agents causing disease in the human system exert a peculiarly sedative influence upon the nerve-centers presiding over the motor activity of the intestinal canal. As a consequence, deficient peristalsis, manifesting itself in deficient alvine dejections, is an early symptom of almost all diseases.

This may or may not be accompanied by deficient secretion; but, no matter how abundant secretion may be, if the motor centers are so blunted as to have their activity suspended and to be insensible to impressions conveyed to them, the intestinal tube becomes an inactive, motionless mass that effectively imprisons its contents.

In the treatment of disease, if we undertake to restore motor and secretory activity to the intestinal tube, we have four classes of agents that we may employ, or four modes of procedure at our command. By means of two of these, we can stimulate the nerve-centers directly; by the other two, indirectly.

Direct stimulation of the cerebrospinal centers, if sufficient, arouses all the cells in such centers to activity. As a result of this activity, secretory and motor impulses are generated and transmitted to all the structures deriving their nerve supply from such centers.

On the other hand, indirect, or reflex, stimulation of such centers, unless very extensive, arouses to activity only a part of the cells composing these centers. The motor, or secretory, response to such stimulation is local, and not general. In order that this statement may be more clearly understood, the author will advance this proposition:

The Law Governing Reflex Motor Impulses

The same law governs the generation and transmission of reflex motor impulses that govern the circulation of the blood. "Where there is an irritation, the blood will flow." Corresponding exactly to this, when the terminal filaments of the sensory nerves distributed to any particular structure are irritated, that impression is transmitted to the centers. In response to this, motor impulses are generated and transmitted to the structure from which such sensory impression came; but to no other structure.

The action is essentially local. In other words, "the effect of a given sensory stimulus is manifested only upon a limited and practically constant number of motor nerves." *If the sensory impression is made upon the nerves of a limited area, the motor impulse generated in response thereto will be reflected to a correspondingly limited area.*

Much attention has been given to agents which stimulate secretion, and the individual peculiarities of these agents have been carefully studied; however, little attention seems to have been given to the means of exciting the other function concerned in intestinal activity.

It is well known that deficient peristalsis retards bowel movements, and that, if peristalsis is entirely suspended, no movements occur, still, little practical use is being made of that knowledge.

Too Little Attention Is Paid to the Intestinal Motor Function

Our entire therapeutic endeavor seems to be directed to the *stimulation of the secretory function*, while little, if any, attention is given to the *other essential function*, the motor activity of the intestinal tube.

The almost universal rule is to administer secretory stimulants (chemical irritants), and to trust to them or maybe to some vaguely defined or altogether unknown agency to arouse the activity of the other essential function.

It is true that remedies which excite intestinal secretion do also stimulate motor activity of the intestinal tube; but the manner in which they do this is so inefficient and corresponds so poorly to the time at which such function should be active that it seems quite unreasonable to depend upon such an agency for the production of so important a factor

The four modes by which the secretory and motor activities of the intestinal canal of the glands emptying their products into it may be artificially induced are: chemical stimulation, mechanical stimulation, electrical stimulation, and physiological stimulation.

Chemical Stimulation

Chemical stimulation is the method almost universally employed, therefore we shall first consider the action of this class of agents, and the difficulties encountered in their employment; also the objections which exist *to their being depended upon* to stimulate the motor function of the bowel.

Let us see with what difficulty these agents accomplish this dual result. Take, for example, the cholagog cathartics. These cause a free flow of the biliary secretion. This secretion is poured into the duodenum, and there it comes in contact with those terminal filaments of the nerves distributed to the intestinal mucosa to which it is a chemical irritant; but it can stimulate these nerves only as it is brought in contact with them.

When motor activity of the tube is suspended, many difficulties lie in the way of its being distributed throughout the length of the tube. Instead of the small intestine being a straight patulous tube through which its contents can readily pass, it lies in numerous convolutions, and at many points a short bent in the tube completely closes its lumen.

If peristalsis is suspended, the downward passage of the intestinal contents is effectively blocked, thus confining any quantity of hepatic secretion which may have been induced by the action of a cholagog to the duodenum and such segments of the jejunum as it may have been able to reach.

If this secretion is abundant, the obstruction to its downward passage causes overdistention of that part of the tube which it first reaches and in which it is confined. All the sensitive nerves supplying this part send up repeated sensory impressions, and the reflex response to these at times amount to spasmodic contractions.

These violent muscular contractions mechanically irritate the sensory nerves passing through or terminating in their fibers. This mechanical stimulation augments the already powerful chemical stimulation existing in the part. These, acting together, cause violent contractions of the tube, which force the contents both upward and downward.

If the segment thus irritated be near the stomach, bile and other intestinal contents are forced up into that viscus. If lower down, these contractions straighten the bend in the tube immediately below this segment, thus allowing the contents to pass downward to another segment of the tube.

It is here again arrested and held until the irritation caused by its presence reflexly stimulates this segment of the tube to such degree of motor activity as to straighten the bend at its distal end and thus permit the further downward passage of the intestinal contents.

This phenomenon is repeated, segment by segment, until the chemically irritating intestinal contents have gradually but with difficulty worked their way through the entire length of the tube, and then, but not until then, does evacuation of intestinal contents begin.

It is evident, *since local irritation begets only local motor activity*, that, in order to arouse peristalsis extending throughout the entire length of the tube, the chemical irritant upon which we are depending to stimulate such function *must be distributed throughout the entire length of the tube.* When the motor centers are profoundly lethargic, resulting in entire suspension of peristalsis, *this process is a physical impossibility* except by the tedious and difficult process just described.

Mechanical Stimulation

Massage of the bowels is another indirect means of stimulating the motor activity of the intestinal tube; but, since in practicing massage the hands of the operator are free to move at will, a large portion of the surface of the tube may be stimulated simultaneously, thus sending sensory impressions from almost the entire length of the tube. These impressions are responded to by motor impulses transmitted to a correspondingly extensive area of surface.

While this is a reflex phenomenon, these responses are transmitted in such numbers and to such an extent of surface that they throw the entire tube into a fair degree of motor activity resembling to a considerable extent peristaltic waves generated by the centers when acting normally.

In describing reflexes, the older physiologists had in mind only reflex movements; but at the present time physiologists are agreed that the reflex act affects not alone the muscles, voluntary, involuntary, and cardiac, but also the glands. We have, therefore, to deal with the reflex secretion as well as with reflex motion.

It should be borne in mind that by massage of an organ supplied with secretory nerves the impressions made on their efferent branches are converted into secretory impulses, and that these are transmitted to the organ from which the irritation came, along with such motor impulses as may be excited by the massage.

Secretion and motion thus excited is distributed throughout the entire length of the intestinal canal, no part of the tube being overstimulated, while other parts remain unreached.

Massage, either by the hand of a masseur or by an electric vibrator, is a therapeutic measure which can hardly be overestimated. It can be used with the most happy results in connection with other measures.

Another form of massage, much less positive but none the less valuable as a health-measure, is deep breathing, forced abdominal respiration. One who would preserve his health and keep himself in the best working-trim will find this an invaluable aid if faithfully practiced.

The best results are obtained by devoting ten to fifteen minutes to the practice of this exercise immediately after retiring at night. It should be carried out as follows:

Lie on the back, with limbs straight, or on one side, with knees drawn up; then by extra effort fill the lungs to their utmost capacity until the abdominal muscles are forcibly distended. Hold this position about ten seconds, then expel the air from the lungs, at the same time *forcibly contracting the abdominal muscles.* Repeat this at each inspiration until ten or fifteen minutes have been devoted to the exercise.

This alternate forcible distention and contraction of the abdominal walls changes the relation of all parts of the intestinal canal to each other, thus distributing and mixing the bowel contents. This mixing of the intestinal contents promotes the normal chemical changes, and these new compounds (nature's stimulant) induce, reflexly, both secretion and movement, and the result is a more complete evacuation of the waste products.

The mental concentration incident to the successful carrying out of this exercise exerts a most favorable influence upon the function we are seeking to promote. Forced abdominal respiration is a voluntary act, and in order to carry it on successfully, the attention must be concentrated upon it to the exclusion of all other things.

Mental states greatly influence vital functions. Anxiety, fear, grief, excessive mental activity impair digestion, secretion, and excretion.

Conversely, concentration of the mental faculties in an effort to promote bowel movement, even for so short a time as fifteen minutes, *involves the cessation of damaging mental states.* The surcease thus afforded, the relaxation and response accompanying it, give a lethargic function a chance to become active.

In many instances, the mental concentration incident to the practice of massage by forced abdominal respiration proves to be hypnotic to such a degree that before the fifteen-minutes' exercise has been completed the subject is asleep, the subconscious mind simply having taken control while the conscious mind was intently concentrated upon the promotion of a vital function. The next morning a more satisfactory bowel movement occurs. Is not such a result worth while?

Electric Stimulation

The motor centers can be stimulated to functional activity by electricity. While this is theoretically true, the author does not believe that electric stimulation can be utilized to much advantage.

(*To Be Continued.*)

General Paresis

Salient Facts Concerning this Form of Insanity

By THOMAS G. ATKINSON, M. D., L. R. C. P. (London), Chicago, Illinois
Associate Professor of Neurology, Chicago College of Medicine and Surgery

EDITORIAL NOTE.—Now that the researches of Noguchi have apparently settled definitely the syphilitic origin of paresis of the insane, a new interest centers in the study of this all-too-common disease. We therefore take particular pleasure in presenting Professor Atkinson's interesting study at this time.

THE relation between paresis and syphilis, which we have long suspected but have not hitherto been able to prove, has been at last definitely and conclusively demonstrated. It is now certain that in etiology and pathology paresis is the cerebral analog of tabes dorsalis, and must be classed among the so-called parasyphilitic diseases. Beyond this, there is really nothing new to add to our prevailing knowledge of the subject.

General paresis begins, as tabes does, very insidiously, with subtle changes in the minute vessels of the pia mater, whence they are communicated to the outer, upper layer of the brain, known as the molecular layer. The actual changes which take place in the brain-tissue are not always of the same nature. Sometimes they consist in the breaking down of the cells into soft hyaline detritus; sometimes in the replacement of the cell-tissue with neuroglia. The latter is by far the most frequent. Whatever the process, however, it is always disseminated over the entire surface of the brain; and this constitutes an important element in its differentiation from other cerebral diseases.

When we remember that the layer of the brain first attacked in this insidious fashion is that in which all the higher, psychic functions are supposed to have their operation, it is not difficult to predicate and interpret the symptoms of this early stage of paresis.

The Symptomatology of Paresis

The first signs of derangement are seen in certain subtle changes in the morale of the patient, who begins to manifest a little blunting of his finer sensibilities, a little looseness in his conversation and conduct. It is easily distinguishable from moral carelessness, although the difference is hard to define. It is not a coarse, deliberate, vulgar offense against proprieties, but a subtle, innocent, unpremeditated departure.

Together with this, the patient, develops a failure of memory, which, again, is quite unlike an ordinary defect of memory in two important particulars: first, it is an utter lapse, not a mere laxity; second, it concerns vital matters, not those relatively unimportant things which anyone is apt to forget. Thus, a patient of mine, as a first indication of incipient paresis, forgot one morning to go to his business—a lapse of memory so vital and extraordinary that I had no hesitation in at once attributing it to some serious brain lesion, probably paresis.

We are told that irritability is one of the early symptoms of paresis. But, if by this is meant an irritable disposition, I am bound to say that my own experience does not support it. Such irritability is an early sign of thrombosis, or of any other condition involving cerebral anemia, which conditions are frequently diagnosed as paresis. My experience, however, is, that the true paretic is, from start to finish, sublimely unconcerned, quite good-humored, and perfectly contented; with one notable exception, which I shall mention later.

However, there is considerable objective irritability. For example, the paretic patient, during the first stages, generally displays great garrulity and precipitate speech, his words tumbling on each other's heels. In like manner, he exhibits great motor restlessness; a constant desire to be walking about. But he tires quickly. He often suffers from insomnia. The pupils usually are immobile. There are fine tremors of the lips. As the pathologic process deepens and involves the polymorphic layer of the brain, the mnesic faculty becomes still more faulty. Speech becomes slurred, dropping out syllables and vowels, and the writing shows corresponding lapses. There is a curious hesitancy and uncertainty in all that the patient says and does.

The degenerative process gradually extends downward into the cortex and attacks the motor cells of the medullary portion. The speech then becomes slow and scanning, with appreciable intervals between words and syllables, representing the effort of the brain to overcome the disability of the motor mechanism of speech. By degrees, however, the patient generally gives up this effort, and ceases to speak at all unless spoken to; and then he is prone to get angry and impatient—not, though, with his questioner, but with himself. Writing at this stage is scrawling and illegible, and gradually this faculty, too, falls into desuetude.

There are now, of course, marked neuronic symptoms, due to involvement of the motor centers of the cortex. The muscles become spastic, the reflexes exaggerated, the gait jerky, motor power weakened, tremors and jactitations occur in all the limbs, and the patient is unable to execute any finely coordinated movements. As the degeneration spreads, all of the symptoms, mental and physical, deepen, until at last the patient sinks into dementia and a state of paralysis. In this last stage he is an absolutely helpless burden upon his attendants, having neither mental capacity nor inhibitory control of any of his functions. Death occurs within a year or two.

Paresis and Thrombosis Differentiated

The chief interest in paresis centers about its differentiation from other conditions which somewhat resemble it.

True paresis is an utterly hopeless disease. Not only is it incurable, but no known treatment will even so much as stay its progress. On the other hand, other conditions that often are confounded with paresis frequently are amenable to treatment. Hence the importance of an accurate diagnosis.

Indeed, in spite of some superficial resemblances between this and certain other diseases, there really should not be any confusion, for paresis has some very definite characteristics, both in pathology and in symptomatology, which single it out in very clean-cut fashion from all other cerebral disorders. General paresis is, for example, the only cerebral disease which attacks simultaneously the entire free surface of the brain. It is also the only disease which begins at the outer layer and progresses downward and inward. And it is, finally, the only disease in which the brain-tissue itself, over its entire area, is replaced with productive tissue.

Perhaps the best way to point the clinical significance of these characteristics is to discuss the differentiation of paresis from one or two conditions with which it is commonly confounded.

Cerebral thrombosis is, perhaps, most likely to suggest a diagnosis of paresis. Here we have but to consider the radical difference in the pathology to grasp at once the equally radical differences in symptomatology. The changes that take place in the brain in thrombosis are the changes due to anemia. A portion of the brain is cut off, with progressive constriction, from its supply of nutrition by reason of the ever lessening lumen of the artery which feeds it. This artery is practically always a fork of one of the terminal arteries in the inferior posterior part of the brain. The anemic area, therefore, is a circumscribed, unilateral angular portion, whose apex is at the seat of the lesion and the base including a certain area around the Rolandic fissure, which widens as the disease progresses.

Thus, the condition of cerebral thrombosis is a cortical one from the outset, beginning as a monoplegia and gradually involving the motor centers, on the same side, in regular order as they lie along the Rolandic fissure. It rarely involves the truly mental faculties at all; never until in the latter stages. If it be on the left side of the head, it will involve, in its order, the function of speech; but only the motor mechanism, not the mnesic aspect. So, also, with vision; it may diminish visual acuity, by reason of optic atrophy, but will not produce mind blindness. It exhibits, to be sure, all the neuronic and motor symptoms of paresis, but these occur much earlier than in paresis, are usually one-sided, and progress as stated, in the order in which the centers are represented in the Rolandic area.

In short, a cerebral thrombosis presents the picture of a one-sided lesion, involving the brain from the stem outward, and progressing by circumferential spreading, like a wave from a dropping stone; whereas paresis gives the picture of a disseminated lesion, involving the entire surface area of the brain from the outset, attacking the psychic area first, and extending by depth, into the cortex.

So far as the prognosis of general paresis is concerned, of course, a diagnosis of thrombosis or of paresis is not of such great moment. Both are equally hopeless. But in view of the now established relationship subsisting between general paresis and syphilis, it is not desirable to fasten upon a patient, by implication, a syphilitic history, unless one is quite sure of his ground. And, besides, while both diseases are hopeless enough as to cure, yet, paresis is such a terrible siege of trying, and even disgusting, helplessness that a diagnosis of this disease is sufficient to warrant an immediate commitment to an asylum; while, on the other hand, thrombosis is a mild and harmless condition which it is usually preferable to handle at home.

Syphilitic Gumma or Paresis

Clinically, no doubt, paresis is much more often confounded with cerebral gumma, because both these conditions are sequels to syphilis, and are therefore, equally to be postulated upon a syphilitic history. I suspect that most of the cases of "paresis" which we hear of as being "cured" by antisyphilitic treatment were in reality cases of cerebral gumma wrongly diagnosed as general paresis. Still, there really should be less confusion between these two than between paresis and thrombosis, for they are even less like each other in essential characteristics.

Gumma is almost always focal, and gives rise to focal groups of symptoms. And even when the gumma is disseminated, as not infrequently happens, it does not involve the entire brain area uniformly, as paresis does, but occurs in patches, irregularly and asymmetrically distributed; hence, the neuronic symptoms to which it gives rise (paralysis, reflexes, spasticity, etc.) are correspondingly irregular and assymmetrical. (This is characteristic of nervous syphilis of all kinds.) What is still more important, gumma almost never invades the outer psychic layers of the brain, so that its manifestations are practically never psychic, as those of paresis are, but purely cortical and stem symptoms, including, as a rule, third- or fourth-nerve paralyses, ocular paralyses, and others.

Furthermore, gummata are in the nature of foreign bodies in the brain-substance, and, so, always give us the symptoms of intracranial tension (slow pulse, fever, choked disc, unequal pupils, etc.), and are invariably attended by some degree of meningitis, with its characteristic manifestations (intense headache, strabismus, etc.).

Finally, the therapeutic test will quickly settle the diagnosis. There is no condition known to neurology that responds so promptly and satisfactorily to treatment as does cerebral gumma to vigorous antisyphilitic therapy; while such measures make no impression whatever upon true paresis.

From acute mania, the differentiation sometimes is exceedingly difficult in the earlier stages, for acute mania can, and often does, exhibit a symptom-complex almost precisely the same as that of paresis. The motor restlessness, the precipitate speech, the subtle character changes, the insomnia, the absence of cortical symptoms, all conspire to make the two conditions very much alike. Nevertheless, there are two symptoms, which, if they be present, serve to distinguish mania. One is the fever, which is usually quite high in acute mania, but never is present in paresis (if anything, the temperature is subnormal); the other is the paradoxical reflex of the pupil which occurs in mania; namely, when light is thrown into the eye the pupil expands instead of contracting. This latter symptom is pathognomonic of insane states.

Differential Diagnosis From Neurasthenia

Finally, and perhaps most seriously of all, general paresis must be distinguished from neurasthenia. This of course, applies only to the early stages of the former—but that is just when diagnosis is of most importance.

Superficially the symptoms of neurasthenia may be said to resemble those of incipient paresis; but the resemblance is but skin-deep and ought not to deceive the physician. There are, for instance, socalled character changes; but the changes in the neurasthenic are not genuine qualitative changes of character; they are merely accentuations of certain elements in his character, usually of the unpleasant, selfish elements. So, also, there are marked defects of memory; but in the neurasthenic these are mere abstractions of attention, not actual lapses, and they concern incidental, not vital matters.

In short, both the character peculiarities and the forgetfulness of the neurasthenic are due merely to his morbid concentration of attention upon himself and his woes, beside which everything else sinks into comparative unimportance for him. He is everlastingly concerned about himself and his condition. He likes to talk about them, especially to a physician, therein differing markedly from the paretic, who is with difficulty persuaded that there is any reason for consulting a doctor.

Furthermore, the victim of neurasthenia is troubled with insomnia; but his insomnia occurs during the first part of the night, and when once he gets to sleep he sleeps well. The paretic's insomnia (and that of all organic brain diseases) is during the last part of the night; he wakes up in the early hours and cannot sleep again. All the subjective and neurotic symptoms of the neurasthenic improve, almost to the vanishing point, under excitement, especially pleasurable excitement; those of the paretic become worse.

But the final test as between paresis and neurasthenia, of course, rests upon the complete absence of all objective neuronic symptoms in the neurasthenic. He has no immobility of the pupils, no disturbed reflexes or muscles, beyond a slight increase in the knee-jerk which disappears during sleep or distraction, no optic atrophy or neuritis, in fact no objective signs of any kind.

The treatment of paresis, as already stated, is utterly unavailing so far as the disease itself is concerned. All that can be done is to control the cerebral excitation and to maintain as far as possible the activity and cleanliness of all the emunctory channels. For these purposes it is essential that the patient be placed in an institution where such cases are efficiently handled. Cannabin is *par excellence* the drug for the paretic, and should be given as a routine measure from the start. When there are furious paroxysms, such as frequently occur, the drug may be temporarily replaced by hyoscyamine, or the hyoscine-morphine-cactoid compound in full doses.

To maintain elimination, nothing will surpass a combination of boldine and juglandin, given as may seem necessary, to promote the output of urea; and a combination of phenolphthalein and the sulphocarbolates, to keep the bowels clean and aseptic as well as to prevent an accumulation of indican and other autoinfectious substances.

All of these drug-measures are, of course, to be reinforced by properly applied hydrotherapy and psychotherapy. These patients should receive frequent warm baths, rubdowns, and spongings. It should also be remembered that their heart action is not by any means of the strongest; and this is to be supported, when necessary, not by strychnine, but by cactoid or sparteine.

Acute Anterior Poliomyelitis

The Record of One Epidemic of the Disease

By A. H. SOUTHWICK, M. D., Limestone, New York

EDITORIAL NOTE.—Two important discoveries have recently been announced regarding acute anterior poliomyelitis: Last fall Rosenau, of Harvard, stated that he had been able to demonstrate that the disease was transmitted by the bite of the stable-fly, stomoxys calcitrans; in March, of this year, Flexner described the specific microorganism, which he has succeeded in isolating. These two discoveries intensify interest in Dr. Southwick's record of personal experience, which is as helpful and practical as it is interesting.

DURING the summer of 1912, there occurred in my practice ten cases of acute anterior poliomyelitis, and a brief history, together with a statement of the treatment instituted and some deductions drawn from the experience, possibly may prove of interest to some readers of these pages.

Eight of the cases were in this village, the other two in an isolated farming district five miles from here. The oldest patient was ten years of age, the next younger was four, and the others were between one and two years. Seven had paralysis of the extensors of the right leg (foot); one, paralysis of the right arm and shoulder. In one the paralysis affected the muscles of the chest, diaphragm and neck, and in one the right side of the face and neck was affected.

All those suffering lived widely apart and did not by any possibility come in contact with each other, except the two out in the country. The latter had been in this village the week previous to their illness, but not to any house in which the disease afterward developed. Their homes in the country were a few rods apart and communication between the families was frequent. There was a case in each house, but both victims were taken ill about the same time.

All the attacks developed during the week beginning July 24, and none occurred after this week. In five instances the patient was the only child, and in the other five there were from two to six children in the family. No two cases occurred in any one family. Quarantine was established in every instance, although no one would go near a house in which the disease was known to be. An attempt was made to isolate patients as much as possible from their brothers and sisters, but with only very slight success.

The Symptomatology of These Cases

The attacks uniformly began with vomiting and fever, great muscular pains, and a feeling and appearance of illness disproportionate to the symptoms. The temperature was around 102° to 103° F., and so continued for about a week. In three or four days (sometimes earlier) the paralysis developed. The children cried out with pain when lifted. There was tenderness along the spine and the head was retracted. The knee-jerk could not be elicited in the affected leg, but sensation did not seem to be disturbed. Quite severe cerebral symptoms occurred in one patient, together with strabismus and stupor. Children beginning to creep or walk could, of course, no longer do so, but dragged the limb after them.

All the patients have slowly improved, with the exception of one (a tuberculous child); four have recovered completely. The oldest patient, a girl of ten, first walked with the aid of crutches, next with only a cane, and now she walks quite well without any support, although the paralysis still is quite evident. Nothing like contractures were observed in any of the patients. There is no reason, when a muscle or a system of muscles is paralyzed, why the opposing muscles should be thrown into a state of tonic contraction, and nothing of the kind has resulted in my patients, at least.

The Method of Treatment

The treatment was practically the same for all. First of all, thorough elimination was inaugurated by means of calomel and podophyllin; then followed saturation with calcium sulphide. After the acute symptoms had subsided, small doses of strychnine arsenate were persistently given, besides such other medicines as seemed indicated for special reasons. Pillows were placed so as to support the affected foot and leg in the most comfortable position. Once a day the child was sponged with a creolinated epsom-salt solution. Three times a day the nose and throat were sprayed with a 50-percent solution of hydrogen peroxide. Seeing no particular indication for urotropin, and never having heard of its use doing good, I did not give it. Morning and night the back and leg were rubbed with warm coconut or olive oil, the paralyzed leg being gently massaged and subjected to passive movements. (This, after all fever had left.)

After the morning bath and massage, the children were placed upon a blanket on the floor, given pillows and their playthings, and were left to their own devices. Without an exception, the gentle rubbing of the back with oil and the massage of the limb gave comfort, although at first they dreaded it. During the previous winter and spring all these children had had measles or whooping-cough, some having had both; none had fully recovered longer than two months before the disease was contracted.

Is Dust an Etiologic Factor

For four weeks prior to July 24, there had been no rain in this immediate vicinity; consequently there was a vast amount of dust, and this was constantly stirred up by innumerable passing automobiles. In a neighboring city of about 18,000 inhabitants, seven miles distant, no poliomyelitis, to my knowledge, occurred. However, a young lad from that city, who spent his vacation here at the period in question, was taken ill and upon returning home developed the disease, with paralysis of the legs. He has now nearly recovered, I am informed.

Acute Poliomyelitis in an Adult

During the week mentioned, I was called to see a strong, healthy man of about forty. He had vomiting, muscular pains and fever. I made a tentative diagnosis of poliomyelitis, but with which he disagreed, thinking his effection rheumatism. He passed from my care and entered a hospital, where paralysis of both legs set in. He remained in the hospital six months, and, although now home, has made very slight, if any, improvement. At the hospital his trouble was diagnosed as multiple neuritis, and the symmetrical paralysis would rather incline one to this diagnosis. However, the lack of sphincter involvement, the sudden onset of the attack, and the slight improvement after so many months, in connection with the similarity of symptoms, lead me still to believe this also to have been poliomyelitis.

I should have stated that in two separate summers, about four years ago, I attended two other victims of infantile paralysis in this village. One recovered completely in about three, the other in about six weeks.

In recalling the history of these ten or twelve cases, I am led to certain conclusions:

Conclusions

Anterior poliomyelitis must be very slightly infectious, exceedingly so, as witness the occurrence of the single occurrences in large families.

If the *materies morbi* is carried by stable-flies, it is strange the disease did not develop in the nearby city, where there are, presumably, more breeding-places for the insect.

In the city referred to, there were frequent rains, but, as stated before, none here, and as a result vast clouds of dust were constantly drifting into the houses. It seems likely, therefore, that the disease-germs entered with the dust.

It occurs to me that, having but recently recovered from measles or whooping-cough, the mucous membrane of the air-passages of these children was peculiarly susceptible to infection; besides their being below par and thus not offering normal resistance to the invasion of new germs.

I have read of placing the affected limb in plaster-paris. By doing so, the child is effectually prevented from maintaining what little muscular power remains, and the development of more strength through use is thereby precluded.

Tenotomy in any of these instances would be simple mutilation. The children are badly enough crippled as it is, and contractures have not developed in my charges.

Should I have to attend poliomyelitis patients in the future, my treatment will be as follows: In addition to everything used as above stated, the doses of calcium sulphide will be very largely increased; in addition, in the early stages, ergotin to the limit will be given. Also a blister six or eight inches long and one inch broad on adhesive plaster will be applied to the dorsolumbar spine; care being taken not to injure the true skin. Blisters are supposed not to heal well in paralytics; it all depends, however, where you place the blister with reference to the paralysis. I shall try them, at least.

This is simply the narrative of a personal experience. I do not know that my treatment did any good whatever, but at least none of the patients died—for which I am very thankful—and until someone has something more effective to offer, my treatment in the future will be as indicated.

Caution: Do not give calcium sulphide and calomel very close together; they are incompatible.

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[Since Dr. Southwick's paper was written, Flexner, of the Rockefeller Institute, has announced the discovery of the specific organism of acute anterior poliomyelitis. Whether or not the isolation of this bacterium will contribute to the cure or prevention of the disease of course we cannot say. Presumably any thing which throws new light upon any problem will eventually aid in its solution.

Flexner does not seem to be convinced of the essential etiologic relationship between the stomoxys calcitrans and infantile paralysis; neither were the Swedish delegates to the Congress on Hygiene and Demography held in Washington last fall. Probably the biting stable-fly supplies one means of transmission, but there may be and probably are other sources of infection. The fly theory does not seem to cover every case, as Dr. Southwick's own experience shows.

The method of treatment advocated by the Doctor is certainly logical. Another remedy which has been frequently suggested, and which seems to give good results, is gelsemium, or its alkaloid, gelseminine. There is nothing "specific" about this, of course, but that it is valuable (of course in association with other indicated remedies) when given "to effect" there is ample evidence as any one may clinically verify.—Ed.]

The Doctor in Cuba

By HENRY BRONSON HOLLEN, Ph. G., M. D., Miami, Florida

EDITORIAL NOTE.—Here is an interesting account of things medical as they are and are being done in that foreign field. Dr. Hollen tells us much that is of interest.

TAKE him as he comes, the doctor of this part of the world fares somewhat better than the average member of our profession in our own country. But quite undeservedly, for the everyday Cuban practitioner is inferior on almost every count. In the first place, he is not so resourceful nor so intelligent in his treatment of the sick as is his American confrère, and, consequently, is not as successful from the standpoint of results. Neither is he equally skilful as an operator. He starts in with a flourish and proceeds without hesitancy, which impresses the casual observer with the idea that he is all that could be desired; but the details he is inclined to disregard. Furthermore, he fails to show that gentle concern and touch which endears our own doctor to his families.

In certain directions the Cuban doctor is schooled with thoroughness, and shows it. In diagnosis he is most proficient. He takes considerable pains to arrive at a correct conclusion—it is not his nature to hurry—and, as a result, he avoids the mistakes the American practitioner frequently makes by going too fast. On the whole, however, as stated at the outset, he falls short.

Yet, in a way he fares well—his income is larger in comparison, and he occupies a more elevated place in his community; socially he stands high, and by his patients he is held in the profoundest respect. The prosperity he enjoys is traceable to the fact that there are relatively fewer of him; the medical field here is not so crowded, he finds plenty to do, and what he does he is well paid for.

The main reason why the doctor here is so highly respected and generally kowtowed to is that learning among the Cubans (as in all the Spanish-American countries) is not so broadly diffused as it is with us. The illiteracy that here prevails is plainly indicated by the way the street-cars in the city of Havana are marked or identified. So many of the people are unable to read that it is necessary to designate the route and destination of the different cars by means of contrasting color-schemes.

Write Prescriptions, and Often for Quack Nostrums

One fact standing out is, that physicians hardly do any dispensing here; writing prescriptions is the rule throughout the entire island; furthermore, the prescriptions written, in seven cases out of ten, are for ready-made or proprietary medicines. This, in itself, is not so very surprising; but, when we come to seek deeper into conditions, we find that the *medico*—as they say here—does not limit himself to the ethical preparations, remedies meant to be for doctors' use only, but will not hesitate to prescribe common secret nostrums such as are being blatantly advertised to the laity in the daily newspapers.

It may be that he is unsophisticated, or he may look upon the matter from an angle peculiarly his own and a viewpoint we are unable to appreciate; at any rate, the doctor here—whatever the reason—exhibits no hesitancy in prescribing for his patients such preparations as Ayer's sarsaparilla, Scott's emulsion or Barnet's wine of pepsin. As regards the formula, he may have only the vaguest notion; but, apparently, that makes little difference to him. It does not seem to occur to him that, in prescribing nostrums of secret formula and questionable value, he is promoting self-drugging by the laity and thus hurting his own interests—not for one moment. To me, this is an inconsistency to ponder over. Still, we must not forget that some of our own practitioners are guilty in the same way, although perhaps in a less degree.

While applauding the Cuban doctor's accuracy of diagnosis, we are almost startled by his inaptitude in the employment of remedies. When he writes a prescription that is really worthy of the name, it often is antiquated in character or is of the polypharmic order. It may be commendable to stick to certain old, time-tried drugs; but, on the other hand, it is a mistake to disregard the new when that is decidedly an improvement upon the old. To illustrate: In the treatment of syphilis, the Cuban medic of the period still is likely to write prescriptions for mercuric chloride and potassium iodide in aqueous solution; and I saw such a one a few days ago in the hands of a patient who had just come from his doctor. And I am told this mixture is a "repeater" at the drugstores of the island.

An example or two may serve to indicate prevalent inefficiency in the way of rational therapy. An American girl, employed as a stenographer here, showed me a prescription given to her for a headache. It called for heroic doses of potassium bromide, acetanilid, and phenacetin. Think of it! It looked formidable even to this girl and she concluded not to get it filled, but, instead, went to the druggist and got 20-cents' worth of aspirin in capsules. Of the two, if we were to judge by this one instance, the girl demonstrated herself to be the better doctor.

Another American, a gentleman whom I met last week in the Parque Centrale, said he found himself, a short time before, in a nervous, debilitated condition and, concluding that he needed tonic treatment, he went to a native physician. The tonic prescribed for him was "wine of kola and caffeine"—only that. The *medico* had been recommended to him in glowing terms, and, of course, he gave the remedy what he considered a fair trial; that is, he took this tonic for a whole month. But he failed to improve. A little later he happened upon an advertisement of a proprietary preparation, popular in the States, and he claimed now to be "on the mend."

A New Therapy Needed

The doctor here needs a newer and a more scientific system of therapeutics—he finds himself today in the same unsatisfactory footing as did the American profession a dozen or so years ago. The gospel of the active principles would be welcome; the time is ripe for its acceptance. A great service would be rendered here by setting educational forces to work. In the end, and that not afar off, the reward would surely come.

To be fair in our appraisal of the Cuban doctor, it must be admitted that he has lacked advantages; his schooling has been along the regular line, strictly, and he travels in the groove in which he was set agoing. The influences that make for progress have not reached him either as a student or, later in life, as a practitioner.

The Ins and Outs of the Cuban Medico

By his own people the home-article is believed to be superior to the doctor of any other nationality; they have the greatest confidence in his ability. This is in his favor: not so, however, the other fact, that in the conduct of a case he is always subject to abrupt discharge for no apparent cause. Consultation, as we know it in the States, is nonexistent here. One resident northern doctor cited to me a personal experience, and it is typical:

The doctor was called to treat a person sick with typhoid fever. After three days the relator was dismissed and the family called in another physician. At this the one first in the case demurred, it being decidedly unlike his experience in the States, but to no avail. The second doctor staid on the job just for four days, when he in turn was invited to make way for a successor. Altogether, a dozen physicians were called in on this case by the family before the stage of convalescence was reached. Strangely enough, the patient survived.

This abnormal practice may account for the absence of that friendly and sympathetic relation that in our own country exists between a family and the chosen family doctor. In truth, there is no "family doctor" here—the doctor comes, when called, forearmed with the knowledge that he is subject all the time to the caprices of the patient or, especially, his relatives.

On the other hand, the doctor is well paid, which may help to console him. For an office consultation he never takes less than two dollars—often three. For an outside call his fee ranges from three dollars to five, not infrequently five within the city limits. He exacts good fees for operative work, fixing these according to the putative bulge of his patient's pocketbook. The rich man is levied upon heavily; and he pays uncomplainingly, because he expects it; and were he tendered a small bill, he would feel slighted, as though classified with his poorer neighbors.

Very independent is the *medico*—very. He seldom hurries—he eats regularly—gets his sleep—and when tired just sits down and rests. The spirit of "*hasta manana*" (mahnyana) is in him as in everyone else of this tropical clime. His telephone-bell may ring, his office may fill up to capacity—it matters not. If in the mood, he will work; if not, he will smoke or linger complacently over his *cafe con leche* at the corner restaurant.

His lot might be most enviable, indeed, were there no depleting factors. But, as it is, he is saved from too much prosperity by the many societies, of the fraternal order, which provide medical care and dental care, and even medicines to members for a small monthly fee, usually one dollar. The "Associacion Cubana de Beneficiencia" is of this order. It maintains a large hospital on the outskirts of the city.

The Cuban Hospital

Hospitals there are aplenty, and some are fairly good. They are commodious, and usually seem impressive to the visitor who sees things only superficially. But they are not up on nursing here, and the little attentions we are accustomed to will be missed. In the hospital mentioned in the preceding paragraph, all the nurses are males; in other hospitals, male nurses are assigned to male patients and female nurses to female patients.

Self-drugging is exceedingly common here. The papers are full of nostrum advertisements. On every side we come across old acquaintances presented in Spanish garb. There is the "emulsion de Scotti," for example; this fattener looms up everywhere. Also we see the familiar face of "Lydia Pinkham" and the heavenward-pointed finger of "Dr. Munyon." Castoria is here, and danderine, and a score of others, not omitting Dr. Williams' pink pills for pale people. Oh, yes, peruna and cascarets are on hand, too!

The "quack" is also in evidence: the man who cures all chronic diseases *muy rapidamente;* that other *medico*, who cures diseases, without any medicines, by the *fisioterapico* method; and the advertising oculist who takes hold of every provocation to sell a pair of glasses. Even a certain notorious Chicago concern has thrust its grasping fingers down here, appealing to the male population.

Some Interesting Observations

The relations subsisting between doctors and druggists are perfectly friendly. The former is not permitted, under the very strict law, to dispense—and seldom, if ever, does.

Doctors do the embalming here, and they fix the charges to suit themselves.

Looking into a drugstore, or *botica*, as it is called, we find, as part of the stock, large quantities of proprietaries—mostly American and French. The other feature to attract our attention are the decorated porcelain jars, greatly in evidence upon the shelves, these serving as receptacles for wellnigh everything on hand, from ointments to salts. Indeed, this apothecarial outfit vividly calls to mind some of the pictorial representations in Peter's "Ancient Pharmacy."

Prescriptions are written, almost exclusively, according to the metric system, as hardly need be stated. The customer is considered, always, to be the owner of his prescription, which is returned to him after being copied in the record-book.

The ethical physician may not advertise, except to the extent of passing out his business card. But this card often goes into details that positively would be ruled out in the States, besides containing much that is self-commendatory.

It takes five years to complete a medical course, two of which are preliminary, or rather preparatory, corresponding to as many years in one of our universities.

The one, and only, medical school in Cuba is a department of the University of Havana, a very old institution, being the first, with Lima (Peru) and Mexico City, to teach the sciences in the new world. In this school of medicine, as also in that of pharmacy, various of our own textbooks are now in use, notably a translation of our Pharmacopeia.

Though nature is kind in this land, the days always warm and sunny, and an outdoor life permissible all the year round, yet we find much sickness. There is no bronchitis or pneumonia here, but fully as much tuberculosis as up north. Neither is rheumatism prevalent. Of venereal cases, though, there are galore.

Strange to say, the people (the masses) live in dark, dingy quarters, which are crowded to full capacity and closed up at night—the folk down here all are mortally afraid of the "night air." Also, the clerks sleep in the stores and offices where they work, sometimes forty or fifty in one place. Many die from disease of the heart, and liver, and kidneys. The sanitary conditions are still bad. To a visitor, afoot on the side streets, especially for the first time, the remoter parts of Havana City are distinctly "smelly."

The people, as in all Spanish countries, are given to smoking cigarettes. Innumerable times in the course of the day, during business hours as well as in the lapses, the Cuban turns into a *fonda* for his coffee and a good smoke, and ordinarily he burns up from sixteen to as many as fifty cigarettes in a day. He smokes early and smokes late; he smokes from his early boyhood days to the end of life—and some seem to grow pretty old, too.

From sugar-cane is made a rum, which is drank everywhere. It is a cheap drink—strongly alcoholic—and must certainly ruin many good livers and kidneys. Many of the population also are given to the insidious absinthe, although good bottled beer is consumed to a large extent.

The Cuban is given to sex excesses. Masturbation is very commonly practiced, as are also other perversions. Syphilis is visible on every hand, although many of the cases seem to run a very mild course.

All contagious diseases are quarantined—flags in the doorway being used to warn the public. A yellow flag, for example, signifies that there is scarlet-fever in the house. Intestinal diseases prevail here, as might be expected, particularly in the country districts. But yellow-fever, which once depopulated the island, has practically been wiped out. No cases have been reported in ten years.

The Chances in Cuba for Outsiders

It is noticeable that the doctors who have had a year or more of schooling abroad (in the States or in Europe) are doing the best work; and the proportion of these is increasing rapidly. A great many, perhaps twenty-five percent, speak English.

It surprised me to find that only three American doctors are in the field. There is room for more—those who are here are doing well despite the proverbial preference of the Cuban for his own. However, the present law governing medical practice is a discouraging barrier. An outsider must turn in to the faculty of the University of Havana his diploma for approval. Then he must stand examination, on all branches of medicine, *in the Spanish language!* As a matter of fact, it is possible to "beg off" on the last, and it is likely that true reciprocity will be provided by the new administration. At any rate, a graduate of a good school or a doctor licensed to practice in the States need have no fears—he probably will not be troubled.

One Osteopath is practicing in Havana. He told me that he simply "came down and started in." So far nobody has molested him, although he advertises to treat "all diseases common to men and women." From what I can learn, he is kept pretty busy.

A certain member of the legation recently asked me to send to the island a good eye-and ear-man; such a practitioner, he assured me, could have all he was able to do from the first month. Also there is a field here for a doctor who is in position to open a small hospital for the benefit of the rapidly growing American colony, and for others in the city who may care to come in.

Why I Prefer the Active Principles

By GEORGE L. SERVOSS, M. D., Gardnerville, Nevada

THERE are several reasons why I prefer the active principles. Primarily, I have found them to be pure and invariably active, lot for lot. They have obtained for me the anticipated results in case after case, and when administered according to indications so far have never failed me.

My experience with the active principles reaches over a period of seven years. Prior to that time I thought—as do many today—that this form of remedial agents derived from the vegetable kingdom was too potent to be employed with safety in practice. I was fearful of the results that might follow their administration. And this despite the fact that, like every other doctor, I had been employing the more commonly known alkaloids, notably morphine, codeine, strychnine, atropine, besides a few others. During my days in the medical schools the teachers advised us that the active principles, the alkaloids especially, were not safe for general use. At that time—now two decades ago—the theory of Burggraeve had just been brought to the attention of this country and had come to the knowledge of only a small fraction of the profession.

In my earlier days in practice it was taught that all drugs should be given in such dosage as to obtain practically a physiologic effect from every individual dose, and the active principles at that time in use were prescribed accordingly. Little wonder that under such a system of dosage unpleasant accidents did follow the use of the potent active principles.

When I was still employing the galenic, whole-plant products, I frequently was disappointed in the results; and this more especially during my earlier days of practice, when but few of the galenics were standardized and but little attention was given to them by the authorities. Not infrequently did I administer a drug with the anticipation of a certain result, to be wholly disappointed. I noticed, however, that when the alkaloids I have mentioned were used the results in the main were satisfactory. Yet, even this did not open my eyes to the possibilities of the active principles as a class.

How I Came to Try the Active Principles

Early in the spring of 1906 I located in a mining-camp, far removed from a railroad point, and where I was obliged to dispense. The matter of freight charges entered into the question, and I did not see how it would be possible for me to handle the galenics without loss to myself. Then a retired physician who lived in the camp solved the problem for me by suggesting that I use the active principles instead of the whole-drug preparations. To this I objected, saying that I should have to learn over again my materia medica; but the doctor insisted that aside from the matter of dosage and the handling of my drugs and patients there would be but very little to be learned anew. So, it being very important that I have a stock of drugs, and at once, I acted upon my friend's suggestion, but at first ordered only a very few items, the sort I had been employing in the form of galenics.

Then I began to study the literature of these principles diligently, and cautiously set about to employ them in my new practice, following the suggestions as enunciated by Shaller, Burggraeve, Abbott, Waugh, and the various other teachers of active-principle therapy. I was very much surprised to note that my results were better and came quicker than had been my experience. After that, acting upon this pleasing discovery, I gradually increased my stock of active-principle granules, adding many items that I either had not employed as galenics or had used with but meagre results. But these latter agents I found as serviceable as were those first procured.

Prior to my adoption of active-principle therapy I had, like the majority of the profession, given but little attention to exact indications and was at the same time guilty of employing "shotgun" mixtures, with the hope that at least one thing in the mixture would "do the work." With the taking up and study of the active principles, I noticed that much stress was being placed upon the use of single simple remedies to meet single indications. This discovery opened my eyes to the fact that I had been in error to a very considerable extent in my practice of medicine. Following up this idea of "a single drug for a single indication," I soon found out that under this principle much less medication was required to obtain the desired results.

While I had always endeavored to be at the forefront in therapeutics and had kept myself informed as to the newer things or improvements of the older ones appearing on the market, I had not taken cognizance of the fact that the vast majority of the galenic preparations were liable to deterioration if held for any great length of time. But, through my study of the active principles, this important fact was brought very forcibly to my mind, and I now could see why when hitherto I had employed the galenics the anticipated results had not followed.

As a rule, the active principles, as now obtainable, are isolated from their mother plants as absolutely pure, single substances, unassociated by any of the other active or indifferent proximate principles that may exist in the same vegetal drug from which they are extracted. On the other hand, while the major portion of the galenics, especially those containing alkaloids, are standardized, the standard is based upon the percentage-strength of the predominating active principle and without regard to associated principles. This is true of the products of opium, in which the morphine-percentage alone is considered; in those of gelsemium, in which the combined alkaloids are considered as a whole and without regard to the fact that those present are in a practically opposite manner; in those of belladonna, in which the percentage of the entire group of mydriatic alkaloids is considered, without any attention to each individual principle.

This is one of the principal reasons why I prefer the active principles in their pure and simple form. They are free from any possibility of having their action inhibited or modified by any associated principles, and they always produce like results, instance for instance.

Thus, for example, morphine, given alone, invariably produces the same effect, case for case, while, conversely, the whole-plant preparations of opium may show a variance, due to differences in percentage of other associated principles. Gelsemium as a whole may be either antispasmodic or tetanic in effect, as one or the other of the two alkaloids of the plant may predominate. Gelseminine, isolated, is an antispasmodic and may be depended upon as such. I have employed this alkaloid with results never obtainable from the galenic products of the plant. Henbane carries two alkaloids, one of which, hyoscyamine, is a marked antispasmodic, while the other, hyoscine—although being antispasmodic to a certain extent—is very largely hypnotic in effect. I have never obtained the same results from the galenic products of this plant as have followed the use of its isolated principles. Consequently, I prefer the isolated active principles of such drugs for the simple reason that they give me surer and more nearly absolute results.

The Old-Time Galenics Will Deteriorate

It is an accepted fact that the galenics are all liable to deterioration and that many of them are unsafe for use after a very short period of time, regardless of the fact that they may have been standard when manufactured. Today we find the better makers of ergot products dating their labels and advising the doctor and druggist that at the end of a year the preparation will be practically worthless. Ergotoid, properly made, does not deteriorate in this manner.

Not long ago I had a case of mitral incompetency in which digitalis clearly was indicated. I wrote a prescription for an infusion of the drug, but soon after found that the "infusion" was made from a fluid extract. I did not get results, and, upon investigation, I found that the extract had been upon the druggist's shelf for some three or four years. I did not get results after three weeks, at the end of which time I dispensed digipoten, representing the combined glucosides of digitalis reduced to the most simple and stable form. Almost immediate results followed this change, not of the drug as such, but of the product of the drug. The "infusion," as dispensed, did not even produce diuresis, to say nothing of other effects, while the digipoten was followed by pronounced urination, slowing of the heart, increase of blood pressure, and reduction of the dropsical condition, in fact, improvement all the way down the line. I feel sure that, had I employed digipoten from the beginning, these gratifying results would have appeared much earlier.

Not long since I desired to use colchicum. Through an oversight, my druggist had not ordered colchicine, as I had requested, so that I had to order the wine of colchicum. Practically no results following, I investigated and found that this wine had been made from a fluid extract *at least fourteen years old*. In the meantime colchicine had been stocked, and upon substituting the alkaloid for the galenic wine I obtained immediate results.

If one will look over the shelves of the druggist, or over his own shelves if he be a dispenser, and give attention to the galenics there found, he will notice that the vast majority of them show a greater or less precipitate, or that there are marks or rings on the inside of the container—indicative of evaporation. The former means that the product has decomposed, and the Lord only knows what either the fluid or the precipitate may contain. If but simple evaporation had taken place, the strength of the remaining fluid might be computed; yet, such a product would be unsafe for use, regardless of this. This is especially true of aconite, belladonna, digitalis, opium, besides numerous other preparations carrying potent principles.

The isolated active principle, on the other hand, is a definite chemical, while a reliable concentration is an extract, freed from dirt and other extraneous matter and reduced to the simplest possible and unchangeable form. Because of this, no matter how long an active principle may be retained in stock, by either the druggist or doctor, it is the same in the end as in the beginning. This is another reason why I prefer the active principles.

Today we see the druggist advised to follow the Pharmacopeia or the Formulary, and to make his own preparations. This would be well and good were the druggist so equipped as to standardize his products, which, in practically every instance, is not the case. This is another, and very strong, reason why I prefer the active principles. If the druggist is to follow the advice, there will be but few, if any, standard galenics to be found.

Many druggists buy galenics in considerable quantity because of a saving of cost in handling the larger amounts. Having so purchased, but very few will do away with drugs of this sort, even after a deterioration has been demonstrated, and that is a reason why the active principles are preferable to me.

The Gain Both to Patient and Doctor

If a doctor is a dispenser, the question of economy enters very largely. Even though he may make a charge over and above his professional fees for drugs furnished, it should be his aim to keep the cost of medicine to his patient as low as possible. According to the teachings laid down by our instructors in active-principle medication, only a very few remedies are left with the patient at any given time, as a rule just sufficient to carry him until the time of our next call. On the other hand, it has been the habit of the prescriber of galenics either to write for or dispense more of any one drug than was absolutely required to obtain results. This has resulted in a loss both to doctor and patient.

Under the active-principle teachings, with only sufficient medicine to carry the patient to the time of our next observation, if a change is required, there is nothing to be thrown away. As the active-principle therapeutist endeavors to obtain only the therapeutic effect, less medicine is required, both at the beginning and, as in most instances, throughout the continuance of the case. This likewise means a saving, to the patient at least. I have checked up cases time and again, and have found that many a time when the sickness lasted over a week the patients required considerably less than one dollar's worth of medicine, and none of them received less attention than was indicated. This would not be true of the galenics, even though they may appear of lower first cost. This is a very important reason why I prefer the active principles.

For several years the makers of galenics have been marketing tablets and pills said to contain the representation of certain amounts of the fluid or solid whole-drug products. While some of them may have contained the agents as claimed, it is very probable that in numerous instances the active principles were employed. There was practically no way of demonstrating this to be a fact, as an assay would have shown the active principles, but not the organic substances associated therewith. While such manufacturers undoubtedly offered active products, they were in the main of the "shotgun" type.

I prefer the active principles over and above such mixtures, first, because of the fact that I know what I am employing, and, second, because I am able to make my own mixtures in such a way as to meet indications absolutely, and without the presence of some one or more agents either not indicated or not useful.

My most pronounced preference of the active principles lies in the fact that, when employed to meet indications, they are invariably, as their name implies, *active*. They give results, and give them quickly; and it has been my observation that they have jugulated numerous conditions coming under my observation which, in times past, when employing the galenics, I saw progress slower and linger for a greater time simply because of drug inactivity, and nothing else.

I also prefer the active principles because of the small dosage, the lack either of obnoxious odor or taste that cause more or less nauseating effects, and the fact that idiosyncrasy rarely figures in their administration.

In numerous instances I have found that I have been able to use the active principles when even therapeutic doses of the galenics could not be borne. I have even pushed the agents to full therapeutic effect, without any associated disaster, such as had followed previously when other forms of the drug had been employed.

And yet still another reason why I prefer the active principles is the fact that much less space is required to carry a much larger stock than of the galenics that could be shelved or put into a case. Then they are clean, which is not true of the galenics. The doctor who dispenses is able to carry with him in a comparatively small hand-case upwards of a hundred different agents, and in that way is able to meet every indication, practically, encountered. Not only is this true, but there is another saving, namely, that of bottles and other containers, along with stoppers, which are not needed when the solid active principles are dispensed. This is a reason which every dispenser should appreciate, and appreciating, should avail himself of its significance.

Epididymitis: Its Nature and Treatment

By E. J. ANGLE, M. D., Lincoln, Nebraska

EDITORIAL NOTE.—This is another article in Dr. Angle's valuable series upon "Gonorrhea and Its Complications." Next month he will discuss "Gonorrhea of the Female."

INFLAMMATION of the epididymis is one of the most frequent of the complications of gonorrhea in the male. The condition usually develops during the second or third week of the infection, but may appear at any time after the disease has reached the deep urethra and involves the prostatic follicles, ejaculatory ducts or seminal vesicles. However, epididymitis is not confined to the acute stage of gonorrhea, for latent foci may be roused to activity by the passage of sounds and the overzealous treatment of the prostate gland and vesicles, by sexual excitement or by alcohol.

The exact causes of this complication are not always clear, as it occurs in those who receive local treatment as well as in those treated expectantly by internal medication. Individuals of a gouty or rheumatic habit seem more especially prone to develop epididymitis, while others seem immune, regardless of poor treatment and reckless habits. There is no question but that many cases have their origin in strong injections roughly introduced into the deep urethra. I am of the opinion that epididymitis occurs more frequently in the practice of those who employ the irrigation-method of treating acute gonorrhea. Certain it is that extreme gentleness should accompany all instrumentation and treatment of the genitourinary tract.

Epididymitis usually is confined to a single testicle, the left one being involved more frequently than the right. When both testicles are affected, the second commonly is attacked several days, or even weeks after the first one; simultaneous epididymitis of both sides being rarely met with.

Epididymitis never occurs as a metastasis, but generally is an extension of the inflammation of the deep urethra through the ejaculatory ducts and the vas deferens. Schindler's theory of the reverse contraction of the involuntary muscular fibers of the vas is ingenious and worthy of consideration; for, if correct, this would be the explanation of why it is that so many cases of epididymitis develop a few hours after the passage of a sound or catheter.

Schindler supports his theory by citing the history of a patient who had suffered from six attacks of epididymitis, each immediately following local treatment of the urethra or massage of the seminal vesicles. This patient was given rectal suppositories containing 1-60 grain of atropine, two a day, with the view to paralyzing the hypogastric plexus; this paralysis preventing reverse peristalsis. After this, the patient went through prostatic and vesicular massage without the faintest after-symptom.

Symptomatology

The onset usually is sudden and when in the course of an attack of gonorrhea the patient complains of general malaise, chills, fever, severe pain in the loin radiating down the groin of the same side, we should always suspect a beginning epididymitis, and the testicles should be at once examined for local tenderness and swelling. Frequently the diagnosis is made by the patient himself, who notices a swelling of the epididymis accompanied by pain along the inguinal canal.

The examination will disclose a varying picture, according to the severity and the stage of the disease. In the subacute type, the inflammation usually is confined to the tail of the epididymis, with a hard nodule of moderate size. In the more acute and inflammatory cases, the entire epididymis is involved and produces a halfmoon-shaped tumor, which encloses the superior, posterior, and inferior borders of the testicle and is several times the size of that organ itself. The overlying skin is dark-red or purplish and edematous. At times a smooth, globular tumor is present, in which the relation of the parts is entirely obliterated. A hasty conclusion would be that the testicle itself is inflamed; but such is not the case, inasmuch as we have to deal with an acute hydrocele, which is present in some degree in nearly every instance, and is due to inflammation involving the tunica vaginalis.

Exceptionally the onset of the disease is sudden, the pain being violent. The constitutional symptoms are pronounced: nausea, vomiting, high fever, sweats and chills. In these cases, local symptoms are well defined, associated with intense abdominal pain, tympany and extreme tenderness over the lower portion of the abdomen. With this group of symptoms, there is usually present, in addition to the epididymal inflammation, a funiculitis, which may be confined to the vas, or, as is more usual, an inflammatory thickening of all the structures of the cord. Upon palpation, the cord frequently is found of the size of the index-finger, extending up the inguinal canal. In fulminant cases, strangulation may occur.

Where the involvement of the cord precedes the epididymitis, the pain and tenderness of the abdomen are suggestive of peritonitis or appendicitis, and the diagnosis may not be perfectly clear until the local symptoms are well established.

The discharge of acute urethritis ceases at the appearance of the epididymitis or may precede it a day or two. As the inflammation declines, pus usually reappears at the meatus, while the two-glass test again shows turbid urine in both.

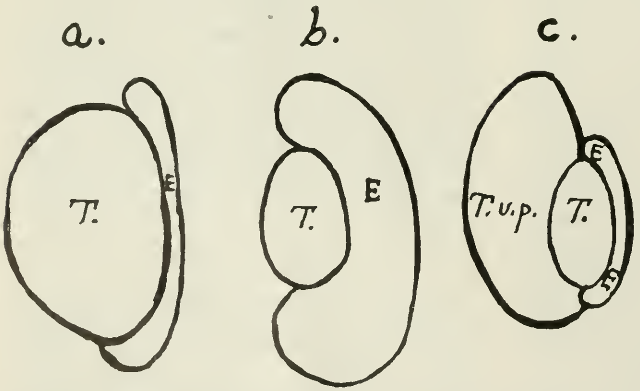
Not infrequently it happens, as all experienced clinicians know, that an attack of acute epididymitis brings about a cure of the gonorrhea. Whether this fortunate result is due to the destruction of the gonococci by the increased body-temperature or to the production of antibodies, is not known.

Diagnosis and Prognosis

The diagnosis usually is clear. Inflammation of the epididymis, in the presence of posterior urethritis and other characteristic symptoms of gonorrhea, leaves no doubt as to its origin. It should be clearly appreciated that the gonococcus is not the sole cause of epididymitis, as it may result from any of the pus infections (as for instance by streptococci or staphylococci) of the bladder. Epididymitis at times is a quite frequent disorder during grip epidemics, the infection reaching the testicle through the blood stream.

Orchitis is rarely associated with urethral inflammation, but is caused by traumatism, cold, mumps, measles, and other constitutional disorders and infections. In orchitis, the swelling involves the testicle proper and forms a moderate-sized tumor, which is oval, smooth, quite hard and very tender. The pain is very intense and not influenced by position, as in epididymitis. Its course is slower and atrophy of the testicle is a frequent result.

Chronic epididymitis may be confused with syphilis or with tuberculosis of the testicle. Syphilis is usually in the form of a gummatous infiltration and involves the testicle proper, which slowly enlarges to a tumor of considerable size. This tumor has a smooth surface, is quite firm and is entirely painless. Tubercu-



Schematic Representation of Scrotal Tumors (After Koenig)

a, In acute orchitis; b, in acute epididymitis; c, in hydrocele; T, testis; E, epididymis; T. v. p., tunica vaginalis propria losis usually starts in the head of the epididymis and is always preceded by tuberculous infiltrations of the cord, prostate gland or seminal vesicles. In the case of tuberculous subjects, there is no doubt that gonorrheal epididymitis predisposes to the later development of tuberculous foci in unabsorbed inflammatory nodules.

Instances of epididymitis affecting undescended testicles have been mistaken for strangulated hernia or inflammatory bubo.

The termination of epididymitis may be in suppuration, complete resolution, or the organization of the inflammatory exudate and the formation of a fibrous nodule. In time past, it was taught that suppuration seldom occurs in acute epididymitis; but recent surgical measures have shown the presence of pus in practically every case, in amount varying from a drop to half a dram or more.

Perfect resolution is the exception, a hard, fibrous nodule of varying size usually remaining for life. As a result of the compression of the tubules by the contracting fibrous tissue and more or less thickening of the convoluted tube, the semen is obstructed in its passage from the testicle, and, if the affection is bilateral, sterility occurs in 40 percent of the cases. Sexual vigor is not affected.

Treatment: Prophylactic and General

The early local treatment of acute urethritis is imperative, and, if its abortion is not feasible, the limitation of the infection to the anterior urethra should be our aim.

Gonococcic bacterin, in doses of 25- to 50,000,000, should be given every three days when the infection invades the deep urethra. A snug-fitting suspensory should be worn throughout the attack of gonorrhea. It is needless to mention the necessity of abstinence from sexual intercourse, alcohol, and severe muscular strain.

As to general treatment of epididymitis, the patient's diet should be restricted to milk, liquids, and cereals. At the onset of the attack, the patient should be given a brisk purge, preferably a saline, and this should be repeated every day or two. Aconite is wonderfully efficacious in the early period of an attack, one to three drops of the tincture, or corresponding doses of the active principle can be given every hour until the physiological effects of the drug are noted. With the equalization of the circulation, decided relief of pain is experienced.

Occasionally codeine, phenacetin, aspirin or veronal are necessary to relieve pain and restlessness in nervous subjects. I have found sodium salicylate, in 5- to 10-grain doses every three to six hours during the first week, more nearly meeting indications than any other drug; it relieves the pain, reduces the temperature and acts as a urinary antiseptic. Urotropin or belladonna [atropine] may be added, if desired.

Gonococcic bacterin is indicated in every case of epididymitis; an initial dose of 25,000,000 should be given when the patient is first seen, and be repeated every other day. This dose is gradually increased to 50- and up to 100,000,000.

Small doses (2 to 10 grains) of potassium iodide or of iodalbin are useful to promote absorption, this remedy to be given in the latter period of the disease.

Local Treatment

The local treatment consists in rest in bed, elevation of the testicle, and heat and medicinal applications to the inflamed organ. Rest in bed is of the greatest importance and should be observed, if possible, in all but the most mild or subacute cases. Elevating the testicle is next to rest in importance. This object is best secured either by placing a small, firm pillow, covered with rubber cloth, between the thighs or a T-bandage of sufficient width easily to support the scrotal contents. The testicle should be elevated as high as possible, thereby relieving the tension on the spermatic cord and lessening congestion.

I mention the ice-bag only to condemn it. Ice to the scrotum not only is painful but may produce gangrene and sloughing. In every instance which has come under my observation the inflammation has been more prolonged and the induration greater and more difficult to absorb than where the patient was treated with moist heat.

These heat applications can be made in several ways. Many prefer the old-fashioned flaxseed-meal poultice, the magma being spread on a piece of linen to the thickness of an inch, and sprinkled with laudanum if desired. The poultice is applied direct to the scrotum, as hot as possible, and should be changed every two hours. The same amount of heat can be obtained in no other way. My own preference is to wring a compress of fifteen thicknesses of cheese-cloth out of boiling water and to sprinkle on its surface, before applying, a mixture consisting of 2 ounces each of tincture of opium and solution of lead acetate, and 4 ounces of alcohol. Oilsilk or rubber cloth is applied over the compress, to retain the heat, and over this a hot-water-bottle. Lead and opium wash or a 2-percent solution of aluminum acetate, either cold or warm, may be applied by means of saturated gauze, changing whenever the gauze becomes dry. Magnesium sulphate in saturated solution has been without value in my hands.

In mild and subacute cases, where it is not so essential to put the patient to bed, a different course is pursued. Several times a day a 25-percent ointment of guaiacol in equal parts of lanolin and vaseline is applied to the affected parts. The addition of 10 to 20 percent of ichthyol and belladonna ointment renders the salve more soothing and astringent. Over the salve a good thickness of cotton is placed, over this a layer of oilsilk or rubber tissue, and finally a "Sport" bandage, such as was illustrated in my article on acute urethritis. (May, 1912, p. 492.)

Doctor Philip, of Hamburg, recommends ichthyol in subacute cases, and after the subsidence of the acute symptoms in others. His method of application is as follows:

The diseased half of the scrotum, including the skin over the cord up to and beyond the inguinal ring, is painted liberally with pure ichthyol and then covered with a moderately thick folded wad of cotton. The usual snugly fitting suspensory is then applied. Since the skin over the cord and that of the scrotum form a firm sheath, a dragging of the testicle with the diseased epididymis is impossible. It is sufficient to cut short the hairs over the scrotum; shaving is not necessary. After four to five days the bandage is loosened and removed by means of warm water and a new one applied.

In this affection, ichthyol again has demonstrated its valuable properties as an antiphlogistic and absorbing agent of high degree. The infiltration disappears rapidly and the patients no longer complain of pain, even though they follow their vocation. The final result is said to be very favorable.

In the declining stage, the patient should remain in bed until his temperature has been normal for two days, or, better, until he can stand on his feet for five minutes without a return of the pain in the groin or testicle. The "Sport" bandage should be worn for at least a month after the patient is allowed to go about.

Induration is best absorbed by application of the following ointment: Belladonna ointment, drs. 2; ichthyol, drs. 2; iodine ointment, dr. 1; lanolin, drs. 3. This should be applied with gentle massage to the indurated area. Iodine-petrogen also is a useful application at this period, and should not be lightly neglected.

All local treatment of the urethra should cease at the beginning of an attack of epididymitis, and must not be resumed for several weeks after.

Operative Treatment

If hydrocele is present to a considerable extent, it should be relieved either by puncture or aspiration. Operative procedures of one form or another have been more or less in vogue since the middle of last century. The simplest of these is puncture, which consists in introducing a sharp pointed tenotomy-knife into the most prominent part of the epididymis to the depth of a third to one-half of an inch. The pain and tenderness are relieved and the course of the disease is materially shortened if this is done early. An antiseptic dressing is applied to the seat of the puncture, of course.

The operation of epididymotomy has steadily grown in favor in recent years with genitourinary surgeons. Hagner's operation is as follows:

"An incision 6 to 10 cm. in length is made at the juncture of the swollen epididymis and testicle, through the scrotum down to the tunica vaginalis, which latter is opened at the juncture of the epididymis and testicle. After the serous membrane is opened all the fluid is evacuated. The epididymis is then examined and multiple punctures are made through its fibrous covering, especially over those portions where the enlargement and thickening is greatest. The knife is carried deep enough to penetrate the thickened fibrous capsule and enter the infiltrated connective tissue. If pus is seen to escape from any of the punctures, the opening is enlarged and a small probe inserted in the direction from which the pus flows, and, with a fine-pointed syringe, the cavity is washed with a 1 : 1000 solution of corrosive sublimate, followed by a normal salt solution. A cigarette drain is provided. A continuous catgut suture closes the tunica vaginalis and a lock-stitch horsehair suture the scrotal skin. Moist bichloride of mercury dressings and a scrotal support to the testicle complete the process."

This procedure to me seems unduly radical and I believe all the possible benefits may be obtained by a more simple method.

The procedure which I follow and recommend is that of Bazet-Gross. The swollen epididymis is firmly held in the left hand and an incision of from one-half to one inch is made over the most prominent portion of the swollen nodule of the globus minor. The incision is made as close to the median raphe or ligamentum scrotale as possible and parallel with it. The incision is continued through the hard, fibrous tunica albuginea—which at times will be found half an inch in thickness. Care should be taken not to cut the tubule. When the tubule is reached, a probe is introduced into the body of the epididymis from a half to an inch and a half and the foci of pus evacuated. The walls of the globus minor are then attached to the skin with a continuous suture. The wound is either packed with iodoform gauze or a small rubber drainage-tube inserted, over which is placed the customary dressing. The latter need not be changed for two to three days. General anesthesia should be always instituted.

The advantages of the operation are, first, prompt relief of pain and fever; second, rapid disappearance of the swelling of the epididymis and cord; and, third, a shorter period of convalescence. Very often the patient is able to go about his duties, wearing a properly fitting suspensory, in the course of two or three days. It is my practice to follow this procedure whenever the symptoms do not yield to the ordinary treatment in four or five days, and also in the recurring and relapsing types of the disease. The consensus of opinion is that epididymotomy decreases the tendency to sterility, whence, consequently, the operation is especially adpated for all subjects having epididymitis who have had a previous infection on the other side.

Pus is present in every well-developed case, and there is no reason why the same principles which govern its evacuation in other territory should not apply here. The results of this operation are so uniformly successful that it should be given a permanent place in the treatment of epididymitis wherever it seems reasonably indicated.

The Use of the Obstetric Forceps

A Chapter of Practical Suggestions

By WILLIAM RITTENHOUSE, M. D., Chicago, Illinois
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EDITORIAL NOTE.—Last month, in the first installment of this paper, Dr. Rittenhouse discussed the general attitude toward the use of the forceps in childbirth, the proper and improper employment of the instrument, and the easiest of the various operations. He now proceeds to a discussion of "the instrument of choice."

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The Instrument of Choice

IF a beginner were to ask half a dozen obstetricians for advice as to the best instrument to buy, he would probably get half a dozen different opinions. One would advise him to get a short forceps for general use, and a long one for those cases where assistance is needed at the superior strait—the "high operation." Another would put much stress upon the need of possessing an axis-traction instrument.

My own equipment consists of one short and three long instruments, the latter being a Hodge with medium curvatures (both cranial and pelvic), a Hodge with very decided curvatures (both cranial and pelvic), and an axis-traction Tarnier. In actual practice, I find that the second-mentioned (the Hodge of medium curvature) answers every purpose. It can be used either high or low in the pelvis, and, if axis traction is desired, I get it very satisfactorily by passing a yard-long strip of gauze through the fenestra of both blades. An assistant can then make traction on the gauze fillet, in the direction of the coccyx.

Some doctors are much attached to short forceps. Their only advantage, so far as I have used them, is that they are small, light, and easy to carry. The higher up in the pelvis the head is, the more difficult it is to use them, while the long instrument can be employed anywhere, from the vulva to the pelvic brim.

The instrument with very decided curves in the blades is dangerous, except in skilled and careful hands. If the cranial curve is too sharp, the tips of the blades may inflict injury upon the fetal head. The only advantage of a decided cranial curve is that it prevents the instrument from slipping; but, as slipping is usually due to maladjustment, the remedy is a matter of mechanism rather than of the shape of the forceps.

More dangerous still is the instrument with an exaggerated pelvic curve. Twice I have seen vesicovaginal fistula caused by unskilful handling of a forceps of this shape. It can readily be understood that depressing the handles throws the tips of the blades toward the mother's pubic bone, and they may pinch the bladder so hard against the bone that they cut through it like knife-edges.

The busy doctor finds it advantageous to modify, in the direction of simplicity, the outfit which he carries with him daily. Most of us are content with a single forceps to carry constantly in our obstetric bag, and for that reason find it best to carry that kind of instrument which meets our wants in the greatest number of instances.

In my own experience, the medium-curved Hodge has answered every requirement. I have an axis-traction Tarnier, but have never put it to use, because, like the policeman, it is not at hand when wanted. Whenever axis-traction was demanded, rather than to delay matters by sending for my Tarnier, I have slipped a gauze fillet through the fenestra of my Hodge, and found this expedient to work satisfactorily. So my Tarnier still possesses its original polish.

How Best to Apply the Forceps

The application of the forceps at the inferior strait is so simple a proceeding that I need scarcely go into all its details. I assume, of course, that proper sterilization of the instrument and of the operator's hands has been attended to. A lubricant may be used, if desired, but is not really necessary, as the natural lubrication of the parts is sufficient. Lubricants often are of doubtful asepsis, unless the doctor has personally supervised their sterilization. I myself long ago abandoned their use on the obstetric forceps.

The position of the patient will be according to the desire of the operator. Many prefer to have the parturient woman placed across the bed, with the hips brought to the edge. But this is not essential. I usually allow her to lie lengthwise of the bed. Especially do I prefer the longitudinal position when there is a scarcity of assistants, as so often is the case in family practice.

With the transverse position, it is difficult to get along without an assistant to support each limb. When short of help, a good expedient is to support the limbs in the lithotomy position, by means of a sheet folded diagonally, rolled into a rope, passed over the shoulders and behind the neck, and the ends tied to the knees. With this harness, I have made many a delivery, one assistant (often the husband) giving the anesthetic under my watchful eye and according to my directions. No man is really properly equipped to do general family practice among the people until he has learned to do, not merely two things at once, but half a dozen or more, all at the same time, besides watching, perhaps, two or three persons in addition.

Never Use Force

In applying the blades at the inferior strait, no force should be exerted: they almost will fall into position by their own weight when properly directed. A curving, semicircular sweep around the fetal head is the one essential movement. If any obstruction is encountered, it should never be overcome by force, but rather by withdrawing the blade a little and then slightly varying the direction of the movements. The two most common obstructions that may be encountered are, first, the tip of the blade catching an ear, and, second, getting outside of the uterine cervix when dilatation is not complete. In either case, the application of force would inflict injury.

After the blades are in position, it sometimes happens that they do not lock readily, owing to their not being in perfect apposition. Here, again, force must be avoided. By a little gentle manipulation, especially by depressing the handles toward the perineum, the locking can be accomplished without violence.

In making traction, the chief points to be observed are the following: (1) The traction should not be continuous, but intermittent with short periods of rest; (2) the pelvic curve should be borne in mind, and the direction of traction changed as the head advances, allowing the handles to rise higher and higher until at the moment of delivery they lie on the front of the abdomen (the operator's sense of touch will tell him when the handles are in the position of least resistance); and (3), after the vulva begins to dilate, the progress should be slow enough to give the tissues ample time to stretch and thus avoid laceration of the perineum. Indeed, I often make use of the forceps for no other reason than to prevent laceration, since the instrument gives one perfect control of the head and thus prevents that sudden expulsion which is the cause of so many lacerations at childbirth.

As a rule, no great amount of force is required to bring the head through the inferior bony ring. In a funnel-shaped pelvis, that is, where the inferior strait is markedly smaller than the superior, it may be necessary to employ very powerful traction. But even in such cases moderate intermittent traction for a considerable time is more safe than very hard pulling, because the gradual molding of the shape of the head making it longer and narrower will greatly facilitate the delivery.

It is, furthermore, important to observe whether rotation has taken place, for, if it has not, much effort may be wasted, with corresponding danger of injury. Palpation of the sutures and posterior fontanelle will show whether the occiput has rotated to the symphysis pubis. If it has not, readjustment of the blades, and combining a slight twist with the traction usually will complete the rotation, after which delivery will be much easier.

In all applications of the forceps higher up, it is even more important to bear this fact in mind, because under these circumstances it is certain that rotation has not occurred, while it is equally certain that it cannot occur when the child's head is in the grip of the forceps except with the aid of the operator.

(*To be Continued.*)

Autotoxemia and Acidosis

By C. ELTON BLANCHARD, M. D., Youngstown, Ohio

EDITORIAL NOTE.—Here is a distinctly practical paper, discussing a symptom-complex which is exceedingly common, yet too rarely recognized and its importance seldom appreciated. It will pay you to read it.

I AM fully aware how difficult it will be to offer the readers of this journal anything new on the subject named in the headline. Current medical literature for the past fifteen years has carried many valuable discussions, reports and opinions. Some good men have published their pooh-poohs and ha-has. Some have said it is impossible to asepticize the thirty-two feet of the alimentary canal; hence, intestinal antiseptics are useless in typhoid fever, enteritis, and other conditions of similar nature. Search your library; consult the texts, and see how little you find about this autotoxemia-acidosis subject.

When a physician made bold to declare that any and all of the disorders here enumerated—namely: most of the symptoms manifested by the stomach and by the average diagnostician called indigestion, gastric catarrh, dyspepsia, gastralgia, etc.; all those intestinal symptoms, including enteritis, interstitial catarrh, constipation, diarrhea, dysentery, etc.; those of the liver and kidneys, called by various names; those of the skin, called herpes, urticaria, eczema, psoriasis, etc.; those of the nerves, called anesthesia, hyperesthesia, neuritis, neuralgia, etc.—were caused by the fermentative and putrefactive changes and in association with faulty elimination of the alimentary waste, he was promptly called an empiric theorist, a pseudo scientist, or by some less kind name. Then, if to his list he added most forms of rheumatism, gout, arthritis (not infectious), and a few other things, he was laughed out of court.

Year after year doctors have gone on treating symptoms. The good brother of one school has had it as a classic truism, "Cure the symptoms, and you have cured the disease." Examine the prescription files of any drugstore, as I have done, and you will find that seventy-five percent of drugs prescribed and used are aimed at symptoms instead of at causes. Study the trade-lists from which dispensing physicians order their drugs, and the result is but little better. Drug-making concerns prepare what will sell. They prepare to supply a demand. The demand is for things thrown together, from two to a dozen ingredients, and named "dyspepsia" or "diarrhea" or some other kind of cure. The study of causes and the knowledge of therapeutics is a lost art to a large portion of the profession.

I well remember how our professor of skin diseases at college used to say: "Gentlemen, there are but two ways to treat eczema. If it is fiery and secreting, sooth it down—dry it up. If it is dry and dormant, stir it up, stir it up!" This good man is dead now, so I shall not harm him by quoting his words.

This has long been the routine formula of the average physician, and when I say average physician I mean the rank and file, or those doing the family practice in general medicine, with a snatch or two each day at what few office-cases drift in. If pain troubles, quiet it. If the skin itches, apply some salve, wash or anything to soothe it. If a sore is seen, heal it up. If a nerve is crying out from some irritation, jump on it, blister the skin over it so the skin will be so sore that the patient will forget the nerve; or rub it, deaden it with morphine, do anything. If that fails or all these things fail, then cut it out!

What would we say of dentistry if the dentist, when a tooth protested against the invasion of an infection by sending up a decent ache, instead of cleaning out the cavity and sterilizing it and then replacing the lost portion with some substance that repaired the tooth mechanically, should extract the tooth? What, indeed?

We have been practicing medicine along the line of palliation, and with surgery have swung to the other extreme in radical efforts to extirpate causes by the removal of organs and parts. Medicine has been giving anodynes and opiates for the several toothaches of life, and surgery has been too busy with the extracting forceps.

It is because of these things that I begin my task with fear and trembling. I know the rut-bound tendencies of the older men and the all-wise, ultrascientific, soul-puffed attitude of the younger men. Some of the latter have studied in Ewald's or some other clinic and come home full-fledged "stomach-specialists." They can extract a test meal with dexterity and finish. They can determine the hydrochloric-acid conditions and often make a brilliant diagnosis. Some of these shining lights of the newer school hold teaching positions in colleges. Such work is good publicity and builds up a following. They talk for days on pathology, symptoms and diagnosis, then close the subject with a few brief remarks on treatment. In some cases it is just this: "Very little can be done for these patients."

During the past five years I have treated more than one thousand cases of autotoxemia with such uniformly good results that I feel justified in adding my experience to the records of those who have gone before. It would be useless and tedious to detail even one hundred cases, with all the various manifestations of this condition. I shall offer you a typical example or two and let it go at that.

The Multitude of Aspects Presented by Victims

Your patient comes complaining of some one of many symptoms. He may be in one of the several stages of the trouble. Secondary complications following the first cause, such as liver or kidney symptoms, may send him to you. It may be headache, pains in the stomach-region or stiffness of the muscles in the morning. Possibly it is an itching of the skin, or an eruption, like urticaria, herpes, etc. Now and then one will come because of a stinging sensation, like nettle-rash, or a creeping, crawling sensation here and there. Some will insist they have some kind of an insect in the skin. Others may direct your attention to gas eructations or flatulence. Frequently they talk of "heartburn," "waterbrash."

The typical patient is usually none too well nourished and may be more or less anemic. The skin is usually turbid, often jaundiced, frequently sallow. The tongue is coated, in some all over and in others only at the base. When the acidosis condition predominates, the coating is yellow or white, thinly or thickly coated, according to the degree of toxemia. The patient usually complains of the "dark-brown taste" in the morning. He feels, he says, as if he were a hundred years old when he awakes from a night's sleep. This fully or partially passes after exercise, although languor, depression and lassitude more or less persist all the time. He has headache a good deal, frontal and sometimes occipital—always is dull-headed and frequently dizzy, with "spells, when things get black" or "the whole world is turning about." One patient of mine felt the bed rising and falling as if in the berth of a ship at sea. The old and usual treatment for these vertigo signs has been calomel and purge.

Our typical patient is usually constipated, though at times a diarrhea occurs. If the irritation of this invasion of bacteria into the small intestine has caused a well-marked catarrhal enteritis, we may have a persistent diarrhea or dysentery. There is nearly always pain after eating, coming on at once or after an hour or more, with gas belching and acid eructations. This fermentation may go on, with distressful flatulence and with colonic distention. A craving for food, often a well-marked hyperorexia is present.

Physical examination usually elicits tenderness over the epigastric region, which may also be manifested all over the abdomen, but not usually. Pain is frequently referred to the back or to the subscapular region of the left side. Tonic spasms of the pharynx or lower down the esophagus often occur, giving the patient a feeling of a lump in the throat, or somewhere, that cannot be swallowed.

Heart, lungs and other organs may be normal, though frequently the liver is enlarged and pain or tenderness is mentioned over the kidneys in the back.

What the Urine May Tell

Study of the urine throws much light upon your diagnosis. Fortunately we have one ptomaine that is partly excreted by the kidneys, and, in the absence of other causes, it clinches the diagnosis of autotoxemia. I refer to indol, usually spoken of as "indican." There are others, besides, such as butol, and skatol.

The presence of indol may be ascertained by several reactions. The usual indican test is simple and quickly made. Mix 2 or 3 drams of the suspected urine with an equal volume of hydrochloric acid. To this add a few drops of 5-percent potassium-permanganate solution and mix well. Now add a dram or less of chloroform, shake, and allow the chloroform to settle at the bottom. If indol is present, you will find the chloroform stained blue by the indigo-blue set free by the reaction. There being no malignant condition, no typhoid fever, no interstitial or glomerular nephritis, and, in the case of children, no intussusception, indol is set down as caused by the putrefaction of proteid food in the small bowel.

Often present at the same time we have a high acid-index in the urine and low alkalinity of the blood. There is present what has been termed "alkali hunger." To determine the acidity of the urine also is easy. Several quantitative tests are available. That similar to the acid tests for stomach contents is the most practical.

A test tube graduated to fifths of a Cc. is used. Take 10 Cc. of the urine and add a drop of saturated solution of phenolphthalein in 50 percent alcohol. Then add drop by drop decinormal soda solution until a light-pink color appears. It is best to shake after each drop, so as not to go over the mark. Each one-fifth degree on the graduated tube means the amount of soda solution required to neutralize 100 Cc. of urine. Normal urine will demand about 35 degrees on such a scale if the specific gravity is 1015 to 1020 and 1200 Cc. the 24-hour quantity voided. A patient showing 50 to 200 degrees of acidity is not uncommon when presenting the clinical picture I have outlined.

For more detailed elaboration of all these laboratory tests, and the technic, I must refer you to the works on laboratory diagnosis. I am not writing an advertisement for books, but I myself have used with great profit Ogden's "Clinical Examination of the Urine" (Saunders). This book will give you what you may need. These two simple tests can be made in two or three minutes while your patient waits and should be a routine procedure.

A General Outline of Treatment

It matters not what particular symptom drove your patient to seek your help, the treatment, with slight modifications, is the same for all. This treatment consists in a complete cleaning out of the bowels, then intestinal antiseptics and antacids. Some writers have advocated the simple expedient of giving sodium bicarbonate before meals. Those who would be satisfied to prescribe or dispense sodium bicarbonate have not done all they should.

If my patient presents no skin complications, or other kind, I usually follow this program: Thorough evacuation with saline laxatives. If needed because of liver conditions, the saline may be preceded by calomel, podophyllin or other cholagogs. Then follow with the intestinal antiseptics and the alkalines. The ideal combination is now prepared by associating sodium sulphocarbolate, sodium sulphate, and sodium bicarbonate. To this may be added kidney and liver tonics, such as colchicine, juglandin, etc. Sodoxylin is an excellent preparation. One might have this combination made up for him or he might make it himself, but no extemporaneous effort can equal that made by the granulating process of successful drug makers. My custom is to give a well-heaped teaspoonful half an hour before meals, washed down with a glass of water.

If to this we add a good diuretic, taken between meals for a week or two, it will help to "flush out the sewers." I often use a combination of digitalin, squills, potassium nitrate, and buchu, or, also, digitalin and lithium benzoate. The higher the acid-index, the more lithium benzoate is given.

An excellent liver tonic is the calomel, podophyllin and bilein compound pill. When you have done this, you have done all that is necessary in the usual case.

If skin lesions of the herpes type attend, I usually do nothing, except to prescribe some skin ointment if scratching has made open sores. If it is of the eczema type, I add the triple arsenates and nuclein after meals. Locally, any good skin ointment will heal up the open lesions after the cause is removed. Such symptoms as headache, formication, neuralgia, etc., I seldom attempt to combat, as they usually disappear in a few days.

Sometimes, when the digestive power seems below par, I try to help it along for a while with one of the several digestive combinations available. How much good pepsin, papain, diastase, pancreatin, etc., will do is very problematical. I have used many thousands of the bilein and pancreatin compound tablets where intestinal digestion seemed at fault, and seemingly with good results. In cases associated with marked epigastric tenderness I use papain and hydrastis compound, and it seems to help some. However, I do not continue these digestive aids for long, for, if effective, they are not needed, and, if our alkaline treatment succeeds, as it usually does, the natural digestive secretions will return and do their work in the natural way. I use these so-called digestive tablets for about the same reason that we used to wear two buttons on the back of our coats!

I am fully aware that many theoretical scientific criticisms may be offered by the ultrascientific reader. However, results are what we must use as a means to judge the value of any treatment. I am offering you the story of more than one thousand cases presenting this clinical picture in one of several phases and stages, and nearly all these patients made good recoveries. Many of them were considered very remarkable cures by the patients and their friends. A large number of these people had been drugged for years symptomatically for skin troubles, neuralgias, rheumatism, "liver trouble," indigestion, and for troubles under a dozen other names given by former physicians.

Some of these patients have been babies in whom the condition had been called malnutrition, marasmus, etc. Many grateful mothers will tell you that I have saved their babies, when they were expected to die. The same treatment was used, modified, of course, to suit the infant's age.

"How to save the babies" will make another story, and, if you have been helped by this humble effort and will so indicate, either to me or to the editor, I shall give you this some other time.

The only important principle in the cure of autotoxemia is to clean out the alimentary tract, to asepticize the digesting portion of it. This will stop the fermentation and putrefaction of the food and the formation of foreign acids and ptomaines. With or without help, the symptoms will soon disappear. You may not care to use the same agents I have employed. If you know of a better way, let us learn it. To use that homely idiom, "There are several ways to skin a cat," or that other, "Many roads lead to Rome." I have told you my way. Let us know yours. If you succeed, it must be by the application of these same therapeutic principles.

The Hygienic Treatment of Disease

Especially of Pneumonia and Bowel Trouble

By J. WILLIAM WATSON, A. M., M. D., South Braintree, Massachusetts

THROUGH the recommendation and efforts of the "Committee of One Hundred" and the American Medical Association, medical and hygienic topics are being brought before the public in open meetings. The present-day tendency is to educate the layman so that he can take care of himself or at least prevent disease. Everywhere there is a general awakening along these lines. The laity demand simple methods in the treatment of illness; however, they are loath to live the simple or the hygienic life in order to keep well.

Catching Cold Due to Imperfect Elimination

This attitude possibly is due to a lack of knowledge of the causes of illness, especially of such ailments as a "common cold." The usual idea of laying a cold to an exposure or a draft of air is all wrong. The real cause is much nearer home. One authority has stated that the greatest number of diseases that flesh is heir to is due to "retention," and by this he means the holding back of poisons and toxins within the human economy. With simple and hygienic living, and all our organs functionating properly, thus ensuring elimination of waste, there is no improper retention of the products of decomposition derived from the foods ingested.

The truth of this I have been able to demonstrate by actual experience. A coryza has followed a heavy meat meal. A prostrating pharyngitis appeared after eating heartily of candy, ice-cream, and potato chips. Chills and fever followed by pneumonia were traced to eating freely of fresh pork and doughnuts. All will agree that none of these meals were hygienic. In every instance these things were eaten when the person was tired. Hence the result could not be anything else, in the presence of a poor digestion, than the formation of filth that clogged up the system; this expressing itself in the socalled "common cold."

From the observation of others as well as from my own experiments, I am convinced that "colds" come chiefly and possibly entirely from wrong eating.

The blood traveling so swiftly through the body, it is not surprising that the waste products are rapidly carried all over and deposited in the weakest parts, and the "cold" or the illness resulting from these retained poisons comes on suddenly. But just as swiftly will the unhampered blood stream carry away these deposits, under proper treatment, when the source of supply is cut off.

Hence, in the hygienic treatment of a "cold," it is best to stop all eating during the acute conditions, especially if there is no desire for food (as usually is the case), and wait until hunger comes on; meanwhile taking a mild blood purifier with plenty of water, either cold or, preferably, blood-warm. This medicated water dilutes the muddy blood stream, which thus carries away the noxious deposits that produce the present illness. Personally, I never feel hungry when I have a cold. My experience has been that none of my colds lasts longer than two or three days if I at once stop eating, purify the blood, and wait for the call of appetite (better called hunger) before tasting food. It has been proved many times, and now it is an acknowledged fact that we all eat too much, and possibly, in many instances, the wrong kinds of food.

Wrong Eating and Rheumatic Troubles

The "uric-acid diathesis," with its long train of ills, and of which rheumatism is a marked example, is directly traceable to wrong eating. In one of the worst cases of chronic rheumatism in my practice the patient had been in the habit of taking every morning three raw eggs beaten up in a pint of milk. He had prepared and had gotten away with this breakfast and was on his way to work in the remarkably short time of five minutes. After a while he could not work, in fact, could not get up from bed. He was put on a low protein regimen, fruits were substituted for eggs and milk, his blood was purified, and his heavy red under-flannels (still worn in July) were ordered removed; and in less than ten days he was back to work again. It is three years now and he had not had any relapse, has no return of his rheumatism, and has not lost a day from his work. He was taught to live properly, and his good health for three years shows that he has followed my instructions.

Then, too, as all of our food and nearly all of the medicine we take enters our systems by the avenue of the mouth, it is eminently proper for us to look in that direction for the pregnant source of many of our diseases. It is easy to comprehend that most bowel troubles can be laid to erroneous alimentation. But it is hard to realize that pneumonia can be produced in the same way—that is usually laid to a "draft" or "exposure," albeit that time and time again people have suffered from inclement weather and not experienced any ill effects. "Their resistance has been good," you say. Nevertheless, given a time under continued unhygienic living, and the resisting power breaks down and the "draft" or "exposure" is followed by a pneumonia.

We Do Not Assimilate All We Eat

The exposure or draft is not the cause, but is merely the last straw to make the presence of disease in the body manifest. Commodore Peary and Dr. Cook tell us that the Eskimos, at home, are never ill, although to the unthinking vegetarian their diet of meat and fat blubber appears to be very unwholesome and conducive to disease. But we must remember that on account of the cold and their exercise they are able to assimilate all that they eat. In our environment we eat very nearly the same way, in comparison, as do the Eskimos (meat three times a day, to their twice), but with less cold weather to combat and less exercise, we do not assimilate all we eat; hence we American people have become a diseased race, famous the world over for our "dyspepsia" and its consequent train of diseases.

Even the vegetarian is not free. Should he overeat of even his simple food, he can not assimilate it all, and the rotting material thus left in his system lays the foundations for disease. You may ask, how do I know it rots. Well, just watch the stools of your patients and you will mighty soon be disgusted with the stench. Place some foods out in the heat of the sun. In a short time you will note that they soon become bad and present the same odor. The latter you know is rotten and by analogy you must regard the former as rotten, too. When our summer heat records a temperature of 98 degrees we are generally uncomfortable, while our usual foods have to be carefully preserved on ice. We must not forget that in the stomach and bowels a higher temperature than 98° F. is maintained night and day, so food that is not taken up can not but decay, producing headache and stools that smell badly, giving the breath a foul odor, and blemishing the skin with pimples and boils.

The weakest parts of our body are the ones usually affected, depending possibly upon the season of the year. Bronchial and lung troubles in the winter and diseases of the intestinal tract in the summer. However, disease is no respecter of seasons or of bodily organs.

Overdoses of Poison and "Overdoses" of Food

In the winter, pneumonia is the most to be dreaded; still, taken early and the nature of its cause more thoroughly understood, it is shorn of many of its terrors. On account of the close relationship of the sympathetic nervous system to all parts of the body, any organ is apt to become affected by unassimilated rotting material. If a person takes poison in overdoses, he soon feels it all over his body. If the proper dose is taken, there is in due time a feeling of well-being.

All these being facts well known, it is very reasonable for us to think that the food we eat could act in the same way. When we eat the right kind and the proper quantity in the proper way, there is a decided feeling of well-being, but an overdose of food produces heaviness, mental inactivity, and sometimes pain in the epigastrium. People should eat in such a way and such things that, when the meal is over or at any other time, they would never realize the presence of such an organ as a stomach, any more than they would realize the presence of heart, lungs, kidneys or spleen.

When one eats rightly and lives properly, the stomach never makes its presence known; but it becomes sensitive to the least abuse; which, if heeded, leads to perfect health. To these facts thousands now living the hygienic life will testify; hence it is easy to see the cause of many, if not all, diseases.

The hygienic treatment of disease, then, would be to remove the cause. "But," you say, "no one can go without eating." True, not for much more than sixty or seventy days (the longest time on record is about seventy-five days), but the eating can be regulated.

Now, I do not mean that the patients should be "dieted." That is what many are doing now, and as a result their systems are being starved because they do not properly assimilate, and the nonassimilation is the disease. Unconsciously physicians realize this, for usually the first thing they do for treatment is to administer a physic. "Clean out and keep clean" is their slogan, and it's right. But they forget the "keeping-clean" process when they order food (nourishment) "to keep the strength up."

Can any wise, thoughtful physician expect a fevered stomach and bowels (hotter than any tropical climate) to digest food? The patient is often ordered to "drink" milk. As a result, a large curd of bad cheese is formed in the stomach, and because it can not be dissolved and digested it is vomited up. And then the physician wonders about the sour stomach. But it is the function of the stomach to be sour. It is the "sour" that curdles milk.

Milk should never be used as a drink. Taken in small quantities and fully insalivated, it makes a finely divided curd that is easily digested. If the large curd should be retained, it decays, and then you say, "What a bad, feverish odor there is to the breath today;" and you are nauseated by the foul-smelling stool.

Our Instruction in Dietetics Is Faulty

In many of our medical schools, when the subject of digestion is brought up in physiology, we are told that we should study foods, and the methods of their preparation. As a rule that is where the subject ends—the student is not taught how, is not told what chemical elements and what therapeutic properties there are in foods. This being so, it is not surprising that many enterprising people are making a specialty of foods for various diseases, and they are very prosperous.

Someone has said, "Show me a branch in which the specialist or 'institute' thrives and I will show you a branch which the general practitioner has neglected." If more attention were paid to these matters instead of looking so closely for "bugs" and microbes (which are possibly the "last straws" in making an ailment manifest in an already diseased body), we should do much to bring our patients to a speedy convalescence.

The theory has been advanced that germs are the result and not the cause of disease.

It is easy to see that this might be true. For, take a perfectly healthy body, with pure blood, which we know goes to every part of the human system with a speed faster than a horse can travel, hour after hour; should any germs appear in the system, they would be immediately devoured by the countless phagocytes, and no illness result. This would be especially true if the blood were not attending to the digestion of food. (This is why some physicians will attend all contagious cases only on an empty stomach. Their powers of resistance to disease are then first class.)

Supposing, however, that the blood was at work on a twelve-course banquet, and much of the food had gone along undigested soon to form a decayed mass (a Russian physician has discovered that the stomach and bowels are made to digest one or two kinds of food, never more than three—more kinds make waste), then such germs as appear will grow in the medium that is best suited to them, and these result in consumption, diphtheria or pneumonia, as the case may be, the germs most abundantly found determining the name of the disease. It has been found that diphtheria and tuberculosis are not limited absolutely to any particular spots of the body, though usually located in the throat and lungs, respectively.

Where the germ growth is, there is usually some pain. This is best allayed by properly applied hydrotherapy. When cold moist applications are used the growth and the resulting inflammation are inhibited. Purulent conjunctivitis (not specific) is readily and happily healed in this way.

Stop the Supply of Foods

With this etiology of disease in mind, the only logical thing to do is to stop the supply of food. The fever patient has no desire for it, and could not properly digest it if he did. When absolutely no food is taken, there is no occasion to worry, for there is nothing there to feed the fever. Let medicated water be taken internally, and applied externally by sponging with a mild common-salt solution. This blood-purifying medicated water for the inside should be soft and taken at a temperature a little above that of the body. The fever has then nothing but the impurities of the body to feed on, and these are chiefly eliminated by the kidneys, as will be seen by the increased flow of urine. The patient should take one-half cup of the freshly heated soft medicated water every half to one hour. Never feed to "keep the strength up."

My attention was forcibly directed to these ideas three years ago when I was collecting data on these lines. After days of reckless stuffing a patient was taken ill with vomiting, purging, and pneumonia; a rather infrequent combination. There was a great deal of pain in the bowels. I gave the usual remedies, but they were not successful. But the vomiting and nausea were at once allayed by little drinks of freshly heated blood purifier, and cold moist applications over the abdomen, frequently changed. It was a delight to me to see the pain go by the use of such simple methods. The patient absolutely refused any food for three weeks and I did not tempt her. The bowels moved every day for two weeks even though no food was taken.

There was no change made in the treatment for the pneumonia except that cold compresses (made of two thicknesses of coarse toweling and cooled by being laid on ice or wrung out of cold water) were kept all over the chest and covered with two thicknesses of the same material, dry. These were changed as soon as they became warm or as often as the pain returned. This patient made a complete and happy recovery, even though she had, as complications, glossitis and hemorrhoids.

My consultant remarked to me, and even told the patient's friends, that, had I given this patient the usual pneumonia treatment, death would have been the inevitable outcome. He further said to me that he wished he had known of this method of treatment in the early days of his practice. To the above treatment was added, of course, plenty of fresh air. Since then I have tried the plan on a number of other patients, with the same happy results.

Dietetic Abstention in Bowel Troubles

With reference to bowel troubles, the treatment is ideal, especially in appendicitis. Five patients, during the last six months, have been cured by it, with no relapses, except in a neurasthenic case, and no operations in any of them. The cold compresses and the little blood purifiers ease off the pain in a very short time without the additional use of any opiates. And here it may be well to state that *The Journal of the American Medical Association* recently reported that when an opiate, especially morphine, was exhibited, the power of the white blood-corpuscles was destroyed until the effects of the drug had worn off. What an opportunity is here given for the unfriendly germs to get in their deadly work in the nutrient media that suit them best! I consider it unhygienic to give morphine.

When the acute attack of appendicitis had subsided, special instructions were given in regard to natural foods for the patient's individual use, time for and proper methods of eating. In other words, teach them to live a natural life so that their foods would do them good, and to quit "dieting." Some enthusiasts regard it a great thing to dispense with the breakfast, but this is not a safe "cure-all" to recommend indiscriminately. The food must be studied so as to give that food containing the proper elements or mineral salts that you wish your patient to have. For instance, the best kind of iron is found in tomatoes, having been transformed by the plant and deposited in the fruit ready to be assimilated.

This line of treatment will greatly shorten the duration of typhoid fever. It is a wonder that these patients fare as well as they do when the doctors and nurses are all the time trying to concoct something for them to eat, to "keep the strength up." Cold compresses all over the abdomen stop the pain and inhibit the growth of the bacillus. Then, too (the supply of food cut off), there is no nourishment for them to grow in. Under this treatment the case hardly lasts long enough for the diagnosis of typhoid to be made. The one great idea is to make the blood (the life stream) pure as rapidly as possible. This is the hygienic curative agent. I always aid this process with simple remedies (alkaloidal always preferred) suitable for the case in hand. Colic and indigestion just "melt away" under this treatment.

Constipation and Diarrhea

In constipation, diarrhea and dysentery I have found that no other treatment is as effective. I have in mind a patient whose bowels used to move but twice a month. She was taking drugs all the time and had been told that she never could be cured. Of course she felt somewhat blue and despondent. Now she has a movement almost every day. She is very happy and remarked not long ago that she never was so well as she is now. She is not taking any drug, but she is leading a natural, hygienic life. The bowels are regulated only by the food that she puts into her mouth. Appendicitis is often caused by constipation, but the bowels normally close when no food is taken, to open again when proper food is ingested in accordance with nature's law of adaptation.

We are all creatures of habit, and bad ones at that. We have depraved appetites. The things that we eat (in the amounts, and the lunches at odd times) are doing us no good, but we are just merely "starving" our tissues. White bread is one of the worst things that we eat. Instead of being the "staff of life," it might be called the rod of death. It is a great etiologic factor in constipation. It contains no cell-salts.

Fasting is hygienic, but it sounds the same as starving. We have a misconception of these two terms as applied to the healing art. Not anything is as good as "eating nothing" to rid the system of waste material. This therapeutic fact, applied, combined with proper medicine, will make the physician capable of "bucking" against any disease. To this must be added proper foods eaten in the right way. The results to the patient will be happy and lasting, and to the physician an enviably increased efficiency. Here is a great field for thought and investigation.

Physicians, as a rule, are loath to enter here and as a consequence are apt to give the patient no hope of cure. The patient's attention is called to the hygienic food specialist, who more often is a layman, and he is cured. It is high time for the profession to look out for its laurels and to use any method that will show the nature and prevention of disease and to aid in the curative welfare of the people.

Points and Summary

1. There is a movement on to educate the public in hygienic living and the prevention of disease. The educated, thoughtful, and intelligent layman will probably have less and less use for the physician.
2. Retention of poisons and toxins in our bodies is a prolific cause of disease. These come chiefly from the nonassimilation of the food we eat. The "common cold" is not caused by drafts or exposure. The blood is a rapid conductor.
3. To cure a "common cold," continence in food is the best remedy, combined with fresh air. Simple remedies are the best to purify the blood. Take food at the call of hunger. Hygienic living is a good cure for rheumatism and uric-acid troubles. All food and nearly all medicine enters the body through the avenue of the mouth.
4. No trouble arises if we assimilate all we eat. Food not assimilated becomes a rotting foreign body, much of which passes into the circulation, producing disease.

5. One should never have to realize the presence of a stomach. Our present methods of eating deaden this organ so that when it is empty there is a craving, gnawing, faint sensation often misinterpreted as hunger. With right eating the stomach is quickly sensitive to wrong eating and just as quickly resents it.

6. The "drinking" (instead of sipping) of milk is pernicious both for the sick and the well.

7. Hygienic treatment of disease consists in aiding the natural resources of the body to purify itself. This subject is only lightly touched upon in our medical schools, as well as that of foods. Foods, to a considerable extent, contain the elements necessary in the cure of diseases. Give no food in acute attacks, selected food for chronic cases. "Fasting" is the best method to rid the body of disease, acute or chronic, together with proper blood purifiers.

8. Cold inhibits the growth of germs, and stops inflammation when applied in conjunction with moisture.

9. In disease there is less danger when the patient is fasting. President Garfield and President McKinley were fed to their death, to "keep the strength up."

10. Simplest treatment often is the best. Hydrotherapy and fresh air in pneumonia. Morphine inhibits elimination. Appendicitis is curable without operation. The "no-breakfast cure" is not reliable. Bowels normally close when no food is taken. Food feeds diarrhea and dysentery.

Here is a great field for study and investigation by the general physician. The laity are studying these subjects, hence the physician must, or else lose business.

General Electrotherapeutics

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EDITORIAL NOTE.—This latest contribution to Dr. Bennett's series affords a concise summing up of a lot of practical facts, with which every physician doing electrotherapeutic work should be familiar. We urge its careful study; indeed, many of Dr. Bennett's epigrammatic sentences might well be memorized.

IT HAS been my aim all through the previous talks to answer the most important questions concerning the underlying principles or fundamental laws governing the science of electrification, in all the various modalities, or, in other words, to lay a solid foundation on which to base the system of therapeutic applications, which we will later take up in detail in the special electrotherapeutic talks. With the proper care in the preliminary preparation, we shall be able to go ahead intelligently and can show a "reason for our madness," while, by applying the known and fixed laws governing the science, we can be reasonably sure of getting satisfactory returns and a uniformity of results that will bring both success to us and relief to our patients.

Some of you no doubt wonder why we are so slow in getting to the practical therapeutics; however, the experience of years of teaching and practice, when we had no one to teach us except the slow, painful, expensive albeit valuable school of experience, has shown to us conclusively that it is far better to go ahead slowly and be sure, than to "rush in where angels fear to tread" and make mistakes and fail.

If you have thoroughly digested the previous talks, then we can leave you alone with the problem of therapeutics, feeling sure that you could "work out your own salvation," without fear and trembling. Inasmuch, however, as we all are human and liable to make mistakes and to forget, we have prepared a condensed outline of electrotherapeutics which takes up the exact details of the technic of all the known indications for electrification as a therapeutic agent. This is especially for the busy practician and intended to assist his "forgettory."

Science is the sum of demonstrated facts, and we have endeavored to place before you in simple language and in a clear and concise manner the series of electric facts which have been demonstrated.

Knowing these facts and the laws governing the production of the phenomena, the application of the latter is easy, and the practical manipulation follows a logical sequence.

Later, we intend to go more into detail in the treatment of some of the general constitutional and local diseases and to give special procedure insuring the best results in those conditions that most frequently will confront the beginner.

As these talks deal entirely with electrotherapeutics, we shall not enter into either the etiology of disease, the pathological conditions or the medical treatment.

We take it for granted that the physician who reads these talks has carefully studied the previous talks on electrotherapeutics as they have appeared in these columns from month to month, that he is competent to diagnose correctly any given disease to be treated and to recognize the pathological conditions, and is familiar with the medical treatment involved. It should be understood that no kind of electrical treatment contraindicates the use of proper internal or local medications or the use of such adjuvants as massage, baths, exercise, diet, or other physiologic measures. Indeed, it frequently is advisable to combine those measures with electrical treatment.

In outlining a definite line of treatment for each disease, it should not be necessary to explain in minute detail the method of supplying a certain line of treatment if the preceding talks, with the questions and answers, have been carefully studied and memorized. For example, if general faradization or central galvanization is the treatment recommended, we cannot specify for each individual disease where to hold the positive and where the negative pole or whether to use the primary or the secondary coil. In each case the physician knows whether a sedative or a stimulating effect is desired, while our former talks, or lessons, have told him how to secure either sedation or stimulation.

So, also, it should not be necessary to state for each disease where the galvanic battery is used whether the positive or the negative pole is to be used, for the difference in effect between the two poles and where each should be placed has already been amply set forth in the chapters devoted to questions and answers; and, if you are not fully informed or have forgotten, then it is advised that those numbers be consulted and well studied before actual treatment of a given person is attempted.

However, at the risk of repetition, in order to "make assurance doubly sure," we will once more state a few facts which, if remembered, will be a sufficient guide for the subsequent talks.

The following facts are important in every instance when undertaking treatment; not one of them should be forgotten.

Condensed Facts for the General Practician Who Uses Electrification

P. P. P. stands for positive pole for pain.

Electrolysis is chemical, galvanic only.

Phoresis is mechanical, galvanic, and static.

Catalysis is physiological, galvanic, faradic, static, high-frequency, sinusoidal.

Never use a bare metal electrode on the dry skin.

The faradic has a mechanical and a catalytic action.

The galvanic is the only mode having a chemical action.

Mild doses alone should be applied to sensitive parts.

The best method of irritation is by rapid change of polarity.

In cataphoresis, use iodine preparations under the negative pole.

In anaphoresis, use cocaine and alkaloids under the positive pole.

All modes and either pole have a great influence upon nutrition.

Do not make long exposures to the x-ray with tube close to patient.

Never leave a galvanic or faradic battery turned on, or short-circuited. The battery should be in a condition to run continuously during treatment.

The electrodes should always be in position before the mode is turned on.

Don't try experiments on patients. Try them first on yourself and see how it goes.

It must be remembered that for treatment a mild dose for a long time is more efficient and agreeable than a strong dose for a short period.

Frequent interruptions of the mode or changes of polarity intensify the effect of the mode and often are necessary to relax tense muscles, and so on.

The static mode is silent, continuous, in the same direction, without shock, generated by induction; has low amperage, high voltage, no chemical action.

The static induced mode is intermittently interrupted but is unidirectional, is induced, has low amperage, high voltage, no chemical action.

In voluntary muscles, contractions are produced immediately upon applying the mode and at the end of the treatment they return to their normal condition.

The primary coil gives more a mode of quantity and produces more violent muscular contractions, but lacks the penetrating power of the secondary-coil mode.

Galvanization of the sympathetic influences the vasomotor and trophic processes of the brain and spinal cord, of the face, eyes, muscles, skin, and many parts of the general body.

The galvanic mode will stimulate the absorbents more powerfully than the faradic, and it is the one to use in removing hypertrophies, morbid growths, effusion, and so on.

Do not let female patients take the static crown-breeze with hats on or with wire or celluloid pins or combs in their hair, since the wire is painful and the celluloid may explode and burn the hair.

Frequently it is advisable, in addition to treating the diseased part itself, to apply the treatment to adjacent parts, in order to influence the circulation and nutrition of the diseased parts.

If your battery or machine does not work, hunt for the trouble till you find it, and see whether it is not more your own fault than that of the apparatus. "If at first you don't succeed, try, try again."

The positive pole is acid, liberates oxygen, contracts blood-vessels, decreases nutrition, coagulates albumen, corrodes metals, causes dry, white, hard scar, relieves pain and irritation.

The negative pole is alkaline, liberates hydrogen, dilates blood-vessels, increases nutrition, does not coagulate albumen, causes no corrosion of metals, produces no scar but gives rise to a moist, red, soft condition and increases pain and irritation.

The galvanic mode is constant, flowing in the same direction; it is silent, gives no shock, is generated by chemical action, has high amperage, or strength, and low voltage, or pressure, inaugurates chemical action.

The faradic mode is alternating and interrupted, flowing in opposite directions, is noisy, gives shock, is generated by induction, has high voltage, or pressure, and low amperage, or strength, does not induce chemical action.

The electrothermal bath is a very excellent method of applying faradization and may be used in any case where this treatment is to be given. The vapor-bath itself is frequently a valuable auxiliary to the chemical treatment.

Good results cannot be secured with a poor battery or by improper methods of application. A faradic battery having a small coil of coarse wire produces a crude, harsh mode, which is lacking power of penetration and invariably will irritate a nervous patient.

In involuntary muscular fibers, as in the intestines, stomach, esophagus, contractions are immediately started upon closing the circuit; but the movement when once induced will continue for a considerable time after cessation of the treatment.

The best method of lessening irritability by means of faradization is, to begin with a very mild dose, gradually increase to the highest point short of producing pain, and after holding in position for a few moments gradually reduce the strength of the mode. (Swelling treatment.)

It is not as important in using the faradic mode that attention be paid to polarity; still, it is always advisable to use the positive for the active pole when a sedative effect is desired, and the negative for the active pole when a stimulating or irritating effect is desired.

Observations with a fluoroscope should be made only in a well-darkened room. The operator will soon find that the same apparatus which gives only faint outlines in broad daylight will show every detail at night or in a dark room after his eyes have become accustomed to the darkness.

The secondary coil produces a greater sedative effect and is a mode of greater tension and penetrating power, hence is more applicable to nervous and deeply seated diseases than the primary mode. The finer and longer the wire in the secondary coil, the greater the power of penetration and sedation.

In chronic cases it is necessary to vary the treatment occasionally. Where general faradization has accomplished all that it can, general galvanization may produce still further results. Central or general galvanization may fail in a case where general faradization would produce results and effect a cure.

The flowing of electrification from positive (higher) to negative (lower) is due to "difference of potential." (Potential in electrical parlance means level.) When the "potential is equalized" the battery is inoperative and then is said to have "run down." When deleterious action occurs within the cell it is said to "polarize."

Electrification sets in motion forces that continue to act for hours and even days after treatment, hence treatment should not be given too frequently. Nervous diseases in particular may be aggravated by too frequent treatments. Ordinary chronic diseases require three or four treatments weekly. Acute and subacute forms of disease may require daily treatment. Nothing will be gained by treating patients more than once a day.

The resistance of the skin, which is very great, is diminished by enlarging the electrodes, which allows greater diffusion of the mode. If the dose be too strong and applied too long a time at a given place, there appears at the positive end an eschar due to acid reaction; but at the negative electrode ulceration results, from the alkaline reaction. The electrodes should be moistened with a solution of sodium chloride; this is a better vehicle than water, for the reason that the positive takes to chlorine and the negative takes the sodium corpuscles.

Scarcely a chronic disease is treated with electrification where we can not trace at least part of the good results following to the effects on the nutrition. In the treatment of almost any chronic disease, always remember that electrification properly applied will stimulate circulation, and that the increased flow of blood will bring an increased amount of nutrition; that the contraction of muscular tissues produces the same effect as massage or gentle exercise; that nutrition may be effected through a chemical process; that the process of waste and repair may be promoted; that the nutrition of the entire system may be improved through indirect action as well as by the direct effect of treatment, securing a constitutional, tonic, stimulantig effect.

The Science of Electrotherapeutics

It has been claimed by those whose interests are inimical to advanced therapeutics that electrotherapeutics is not a science.

Science—as we said in the opening—is the sum of demonstrated facts. But the facts which have been set forth in these talks are capable of demonstration, and therefore we make claim that electrotherapeutics is a science.

This science is yet in its swaddling clothes, but it is only a question of time when it will come forth, full-fledged and powerful, and constitute one of the mighty factors in our armamentarium and an efficient adjunct in treating diseases, a powerful aid in bringing about the restoration of the normal condition of health.

A preliminary knowledge of anatomy, physiology, physics, chemistry, and psychology will make the road of the student of scientific electrotherapeutics much easier to travel and help him over the rough places and through the shortcuts; but, as all are not equally fortunate in this respect, we have tried in these talks to make up for this for the benefit of those who are deficient in these things, and if these have been well mastered the study of the lessons will have been easy.

The careful student who has followed the teachings so far is just at the beginning of his work and at the threshold of the great storehouse of knowledge, from which he may take whatever he can apply and use to advantage in the broad field of therapeutics.

Theories are fine things; and, as theories go, any theory is all right as long as it applies and is capable of demonstration. But facts are stubborn things, and we are frequently confronted by conditions, not merely theories; and if things do not always go just as you wish do not jump at conclusions. Remember that electrification follows fixed laws, and, if there is a seeming contradiction or an apparent paradox, you should set your "thinker" in operation. There will be a reason somewhere.

If you leave a switch open and there is a broken circuit, hunt for the gap and fill it. Do not expect an insensate thing like a battery, machine or tube to go contrary to a natural law because a finite and very fallible operator has made a mistake.

Electrification is a docile and willing servant when properly handled, but is a stubborn and unyielding master when ordered to act contrary to its fixed rules.

Electrification in its divers manifestations is unexcelled in some things, but it is not as good as other things, in many instances, so do not claim that it is a cure-all. Sometimes it will do what nothing else can, and conversely; but it comes as near being a universal helper as anything we have at our command.

Judgment, discretion, caution, and discrimination must be exercised both in the selection of the case and the choice of the method of application.

Reason, care, and prudence will succeed, while hurry, carelessness, and guesswork will only bring trouble.

What is worth doing at all, is worth doing well. Be careful of details.

Nothing is too small or unimportant to be neglected or overlooked. Many dismal failures are recorded on the tablets of history, which were due to carelessness or ignorance.

You know the old story of how a nation was lost because of a single horseshoe nail.

(*To be continued.*)

WHAT OTHERS ARE DOING

BERIBERI AND RICE POLISHINGS

Some interesting investigations have been recently made in regard to the cure of beriberi by an extract from rice polishings. A kilo of this bran yielding rather less than ten grains of the extract, the latter, therefore, can not act as a nutrient. In the opinion of Dr. Schaumann, the curative principle involved is a nitrogenous substance analogous to trimethylamine. However, beriberi may also be cured by the consumption of yeast or of beans. The curative dose of the rice extract being minute, it must act, it is argued, as a ferment. It is found associated with the phosphorus of the grain in the pericarp. The ferment seems to be related to betaine, the principle found in plants where metabolism is most active. Altogether, it seems that trials might be made with nuclein here.

UROTROPIN IN EYE DISEASES

At the February meeting of the North Shore Branch of the Chicago Medical Society, Dr. Harry Gradle gave an interesting report on some experiments which he had made concerning the elimination of urotropin in the secretion of the eye. He concludes from the results of his investigations that the best effect can be expected from this drug in its prophylactic administration. It is hardly sufficiently curative to exert a marked disinfecting action, but inhibits and impedes germ growth. The doctor advises its use prophylactically in all injuries to the eyeball, the remedy being, of course, administered internally.

TETANUS ANTITOXIN

Dr. Wm. H. Park, of the research laboratories of the New York Board of Health, advocates the intravenous use of tetanus antitoxin in lieu of its subcutaneous administration, and urges that it not only be given in the case of all wounds of hands and feet, but also in every surgical case in which there is the slightest possibility of tetanus infection. Dr. Park believes in the administration of this remedy as a routine in the treatment of all wounds, especially during the summer season.

While not especially efficient as a curative agent, the agent is effective in preventing tetanus, and, if given early, when the premonitory symptoms are just appearing, many a patient who otherwise would die may be saved. Every physician doing any surgical work should keep a supply of this remedy on hand for emergency use. A few days' delay may mean the loss of the patient.

TREPONEMA IN GENERAL PARALYSIS

Noguchi has just discovered the treponema pallidum in the brains of twelve persons who had suffered from general paralysis. (See *Journal of Experimental Medicine*, February, 1913.) A clinical study of these cases indicates that these were cases of true paralytic dementia, and not of cerebrospinal syphilis. Ten were men and two were women, and seven of these cases were of the cerebral and five of the tabetic type.

Noguchi's researches seem to demonstrate conclusively a fact which has long been discussed but its verity questioned: that paralytic dementia (general paralysis of the insane) is of syphilitic origin. As *Biologica* says, "this discovery clears up in a singular way the pathogenesis of this disease, which up to this time has remained obscure."

HYPOPHYSEAL EXTRACT IN ECLAMPSIA

According to an abstract, in *The Medical Record*, from the *Berliner Klinische Wochenschrift*, Krakauer tested the oxytocic action of hypophysis extract in a case of eclampsia in a young multipara of excellent muscular development. She had never been ill and the convulsions appeared without any warning. When first seen she was unconscious. It was only learned that she was not known to be pregnant over seven months, and had a pendulous abdomen.

Taken to the hospital, the woman received narcotics and chloroform, the spasmophilic state being extreme, along with wet-packs.

There were no signs of labor, and no fetal heart sounds were audible. Attempts were made to induce labor by rupturing the membranes and passing a soft catheter into the uterus. Dilatation was extremely slow and after twelve hours there had been but few pains and the os would admit only the fingertip. Hypophyseal extract was now injected. The woman being still unconscious, the action of the pains was not very sensible, but in two hours the child was expelled dead.

When consciousness was regained, the woman, who had not expected her confinement for two or three months, could not realize what had happened. The child was mature, and it was impossible to fix the time of its death.

WHY DO WE TAKE COLD?

The *Medical Standard* quotes Sargent F. Snow (*New York State Journal of Medicine*) as finding the answer to this question in the word "autotoxemia." The accumulation of fecal poisons and the tendency to periodic toxic explosions lies behind the readiness with which some people take cold so easily. He says that the problem of prevention is practically solved if we can keep the liver and bowel functions close to the normal. Personally, Dr. Snow wakes up the liver with a mercurial once a week if the tongue or conjunctiva indicates torpidity of that organ. regardless of the claims the patient may make regarding regular bowel movements.

Every good doctor knows that one of the best remedies for a "cold" is a quickly acting purgative. An intestinal antiseptic, a remedy to raise body tone (quinine or strychnine arsenate, for instance), and a properly prepared autogenous vaccine should be "the" additional treatment for persons subject to repeated attacks of this too-common disease.

PREVENTION OF EPILEPSY

An interesting inquiry into the problem of the prevention of epilepsy leads Dr. L. Pierce Clark (*New York Medical Journal*, December 14, 1912), to conclude that the prevention of epilepsy is closely bound up with these questions:

(1) A more precise and intensive study of family-stock from which the disease is recruited. (2) Birth injuries and accidents must be still further eliminated. (3) The rearing of neuropathic individuals must be given more definite and painstaking attention. (4) Finally, proper metabolism in potentially epileptic individuals must be still more energetically safeguarded.

DIAGNOSIS OF KIDNEY LESIONS

Dr. G. W. Warren says (*New York Medical Journal*, December 14, 1912) that the albumin content in its relation to the amount of pus in the urine is the greatest gross aid in diagnosticating kidney infections and in differentiating them from cystitis.

The albumin content in the most marked cases of cystitis does not exceed 0.15 percent. Therefore, in pyuria of doubtful origin, where the urine *is free from blood*, an albumin content of more than 0.15 percent in the great majority of cases shows that the kidney is involved. With a small amount of pus and an albumin content of 0.15 percent, it can safely be assumed that there is kidney infection.

SOLANINE: THE ALKALOID OF THE POTATO

In the April 19 number of the London *Lancet* there appears an interesting editorial upon the poisonous alkaloid of the potato, solanine, which, it is claimed, is present in small quantity even in the normal tuber. The amount of solanine present seldom exceeds 0.01 percent, but it may easily be greatly augmented in certain diseased conditions of potatoes. So, also, sprouting potatoes contain an unusual quantity of the alkaloid, the larger proportion being found in the "jacket."

The editorial in question refers to the poisonous symptoms occurring in cattle that have been fed upon distillery waste consisting of potato-mash; however, the toxicological records do not show any serious indictment against this vegetable, and the author suggests that this is due to the small percentage in which solanine occurs.

Solanine, the writer states, may be efficacious in long-standing neuralgia, especially when neuritis is present, and for this purpose is better than either antipyrin or acetanilid. He says, "We have little doubt that oftentimes a judicious diet of potatoes would be of greater benefit to a good many self-physicking people than a dose of some antipyretic substance which they regard as adapted to relieve all headaches, whatever their origin."

Solanine undoubtedly is an excellent sedative, as the experience of those who have used it in the treatment of epilepsy, to replace the bromides, amply shows. The suggestion that it may prove of value in neuralgia and neuritis is an excellent one, and we hope that the readers of CLINICAL MEDICINE will give this remedy a trial in these cases and report results.

TRAUMATIC HEMORRHAGE AND ATROPINE

A noted Chicago lawyer gave himself a bullet wound in the chest. A consultation of prominent physicians was held, but the man died, before their eyes, of internal hemorrhage.

In a neighboring city a prominent man inflicted on himself a pistol-bullet wound in the chest. A consultation of prominent doctors was held and all agreed that nothing could be done, that the wound was necessarily fatal. A young interne requested permission to make a trial. He gave the dying man rapidly repeated doses of atropine until his face reddened, stayed all night, keeping up the action—and the patient recovered.

Atropine was not employed in the first-mentioned case. Several hours elapsed after the wounding before the end came, time enough to show that the bullet did not sever a vessel of primary caliber. The physicians in charge undoubtedly knew nothing of this unique application of atropine. They knew of the active-principle movement only through the attacks of its enemies.

The youthful hospital-physician who won such a distinguished triumph over his elders had really been instructed in correct modern therapeutics.

HOW LONG DOES TYPHOID FEVER REMAIN INFECTIOUS?

The Medical Record abstracts a communication from Schumacher which appeared in the *Deutsche Medizinische Wochenschrift*, in which he discusses the problem indicated in the heading. The author does not refer to typhoid-carriers—who often remain infectious throughout life—but rather to that class of those individuals who give off the pathogenic bacilli for a longer or shorter period and then become bacteriologically sterile.

Of course, during the active period some measures must be taken to protect the public by suitable disinfection of these individuals, and so some arbitrarily fixed interval usually is adopted. The author has followed up several of these persons, presumptively sterile after the final official examination, and in some of them has seen the typhoid bacilli reappear in the urine and persist there for a number of weeks. He proposes keeping typhoid-fever convalescents segregated and controlled for at least six weeks after defervescence.

COMPRESSION OF THE ABDOMINAL AORTA IN POSTPARTUM HEMORRHAGE

Edward P. Davis (*Surgery, Gynecology, and Obstetrics*, December, 1912) tells of a patient who was exsanguinated from accidental separation of the placenta and suffered collapse, while being prepared for artificial delivery. After the cervix was dilated sufficiently to permit the introduction of the hand, the uterus was emptied of its contents. The hand was then brought into the uterus just above the pelvic brim, at the bifurcation of the aorta, and the latter was compressed by forcing the knuckles of the fist backward toward the spinal column. An assistant then opened a vein in the patient's arm and performed intravenous saline transfusion.

Strychnine, ergot, atropine, and digitalin were given by hypodermatic injection. A hot antiseptic intrauterine douche also was administered. As soon as the patient rallied, the uterus was tightly packed with 10-percent iodoform gauze. Although the patient was desperately ill, her uninterrupted recovery followed.

The author points out that this method is obviously an emergency method and useful only for the temporary arrest of hemorrhage, since severe pressure cannot be made for any length of time upon the uterine wall, nor can the operator's hand and arm endure the necessary exertion; but it has been found prompt and efficient to check bleeding rapidly and to afford opportunity for the exercise of methods calculated to secure permanent uterine contraction.

THE TREATMENT OF FURUNCULOSIS

In the discussion of a paper on the treatment of furunculosis (John L. Kelly, *New Orleans Medical and Surgical Journal*, December, 1912), it was pointed out that the inoculation of staphylococcus bacterins is followed by good results. These are sometimes prevented, however, by employing stock-bacterins which do not contain the proper strain of staphylococci, and for this reason the use of autobacterins is theoretically preferable. If, however, polyvalent stock-bacterins are employed, the results will usually be found very satisfactory. With a properly made polyvalent stock bacterin, accompanied by the indicated medicinal treatment, brilliant cures are often effected. Readers of Clinical Medicine are requested to report.

BACTERIN-THERAPY THE HOPE OF THE FUTURE IN SEPSIS

In an interesting report on the progress of the year in obstetrics, Dr. G. L. Brodhead (*American Journal of Obstetrics*, January, 1913) says that he believes the subject of bacterin-therapy to be yet in its infancy; that in it there lies our hope in the successful treatment of sepsis is evident from the number of excellent reports from many observers.

In the author's experience, streptococcus bacteremia has proved almost invariably fatal, regardless of treatment; but, in the less severe conditions, there can be no doubt that vaccine-therapy will prove to be more and more valuable as time progresses and we learn from extended experience the indications for the use of vaccines and their dosage. There is, he declares, no more promising field of investigation than this.

We suggest that the best results in streptococcus infections may be expected by a judicious combination of antistreptococcus serum and streptococcus bacterin—the former for immediate action, the latter to stimulate the production of antibodies and bring out the immunizing resources of the body.

THE HYPODERMIC USE OF MAGNESIUM SULPHATE

In 17 cases of obstinate constipation occurring in patients afflicted with appendicitis, corrosive-sublimate poisoning, acute articular rheumatism, pneumonia, valvular disease, gastric cancer, and other disease, A. Robin and M. Sourdel (cf. *Merck's Archives*, December, 1912) made hypodermic injections of from 0.5 to 5 Cc. of a 25-percent solution of magnesium sulphate. The authors found that better results were obtained by making the injections under the skin of the abdomen rather than in the buttocks, as done at first. Good bowel movements were obtained in 14 cases. A dose of from 0.5 to 1 Cc. of the saline was found most effective, but increase beyond this point did not seem to bring quicker results.

CALCIUM SALTS IN ASTHMA

Dr. C. Kayser, in *Therapeutische Monatshefte*, and quoted in *The Journal of the Medical Society of New Jersey*, refers to the literature on the use of calcium salts as sedatives for the nervous system, and describes thirteen cases of asthma and allied conditions in which he found calcium chloride effectual as a prophylactic.

As a rule, Dr. Kayser ordered the remedy in the form of the following solution: calcium chloride, Gm. 20; simple syrup, 40 Gm.; water, enough to make Gm. 400. Of this, the patient took a tablespoonful in milk every two hours for eight days.

No untoward by-effects were observed in any instance, and the patients all said that after a day or so they could breathe and expectorate easier and their sleep no longer was disturbed. After the third day there were no further attacks, except in the case of two; and in some the relief has been permanent to date. One patient was afflicted with a complicating heart defect, but this did not interfere with the success of the treatment. In one of the two refractory cases, the negligence of the patient may have been responsible for the lack of benefit from the medication.

THE TREATMENT OF INTERTRIGO

Milian (*Paris Médical*, April 19, 1913) presents an interesting paper upon intertrigo, that common affection of the summer months, in which he asserts that it is a bacterial infection caused by a streptococcus which multiplies in the folds of the skin under the favoring influences of heat, moisture, and uncleanliness. According to the author, it not only is necessary, to get rid of the microorganism, but also to remove the conditions favorable to its reproduction in the affected region.

To accomplish the first object, he recommends the use of soap, in order to rid the region of the epidermic debris which furnishes a favorable medium for bacterial growth. However, cleaning the part with a pledget of cotton moistened with 90-percent alcohol or camphorated spirit is the best method. This may cause a little burning, but it has the advantage of at the same time cleaning up the part and destroying the germs by the coagulation of their protoplasm. This method of cleaning should be carried out three times a day, in the morning, at midday, and at night. Every third time, that is, once a day, the alcohol wash may be replaced by an application of diluted (2-percent) tincture of iodine. Ordinarily the pure tincture should not be used, since this irritates the skin; but in some rebellious cases it is occasionally necessary to apply the full-strength preparation—but once only. In the intervals between the alcohol cleansings, the region is dusted with sterile talc powder, in order to separate the opposing surfaces. Powdered starch, which ferments readily, should not be employed.

In a few very rebellious cases, applications of silver nitrate may be made in connection with the iodine treatment just recommended, the silver preparation being renewed every fourth day. The silver nitrate is applied in a 5-percent solution to a region previously cleaned of all grease, in order to permit the silver solution to penetrate the skin. After this application a rod of pure zinc is applied, by which the silver nitrate is decomposed and precipitated upon the surface, which latter becomes as black as India ink. After this, talcum powder may be applied or a zinc paste.

Of course, intertrigo, or "chafing," may be prevented by keeping the body, and especially its folds, scrupulously clean.

EMETINE IN AMEBIC DYSENTERY AND HEPATIC ABSCESS

At the meeting of the Société Médicale des Hôpitaux of April 14, 1913 (see *Paris Médical*, April 12, 1913), Dopter presented some new facts concerning the surprising efficaciousness of emetine hydrochloride in cases of amebic dysentery and amebic abscess of the liver.

The patient, who had returned from Indo-China and entered the Val-de-Grâce hospital, was afflicted with an abscess of the liver, the first symptom of which appeared last October. Upon his entrance, his condition was so grave that immediate operation was necessary, the abscess being drained. The same day and for some days following 0.04 Gram (0.6 grain) of emetine hydrochloride was injected under the skin of the thigh. The discharge of hepatic pus was quickly reduced in quantity, and at the end of the week the dressing was hardly soiled, while at the same time the patient's general condition was greatly improved.

Cures of three cases of amebic dysentery of several months' standing were reported upon at the same time, one of them even being of two years' duration. Through the use of emetine, the colic, tenesmus, and the mucosanguinous character of the dejections rapidly disappeared and the stools recovered their normal state. A cure was effected within three days. Dopter says that it is truly remarkable to observe results as rapid as these and to see a disease jugulated which is generally so obstinate and rebellious to the most energetic treatment. He urges an extensive trial of emetine in the French colonies, especially in Indo-China and in Morocco.

At the same meeting Rouget reported two cases of amebic dysentery of several years' duration in which the patients, like those just reported, were cured in a few days by the use of emetine.

SUGAR AS A REMEDY IN HEART DISEASE

Several contributors to CLINICAL MEDICINE have suggested the use of sugar as an oxytocic. It may not be so well known that this common substance has value—or at least is said to have value—as a remedial agent in heart disease. Denyer (*The Lancet*, April 19, 1913) speaks highly of it as a remedy in these troubles, and says that, while it is of little value when there is edema or anginal pain, or when the cardiac disease is secondary to renal lesion, nevertheless, in a very large percentage of cardiac ailments it has decided merit, as the following clinical history shows.

"The patient, aged 77 years, had an irregularity of the pulse for some years. On November 8, 1912, she had a bad heart attack, with rapid, irregular, feeble pulse, cyanosis, and attacks of paroxysmal breathing, which occurred about 5 or 6 in the morning. There was no edema at this time, nor at any time during the illness. I saw the patient at 7 o'clock, and ordered inhalation of amyl nitrite, which gave temporary relief. This condition continued for some days, the patient steadily getting worse in spite of digtalis, digitalin, strychnine, drycupping, leeching, and frequent inhalations of oxygen. She said that the drycupping gave a sensation of great ease in breathing, and the oxygen certainly did her a lot of good, but the improvement was only temporary.

"On the 14th the patient seemed to be dying; when seen at 11 p. m. it seemed doubtful if she would live through the night. Her relatives thought even worse of her and were firmly convinced that she was going to die, and an experienced nurse whom I had in charge of the case thought there was little hope. I ordered some lumps of ordinary white sugar to be given in milk, and added some syrup to her medicine, telling them to give her four ounces of sugar during the night. In the morning I found the patient very weak, but less cyanozed and with a stronger, slower pulse. Digitalis had been omitted as well as digitalin, as these had not any effect on the heart or pulse. Four ounces of sugar was ordered during the ensuing twelve hours, and after that it was continued in smaller quantities for some weeks.

"The patient made a slow by steady improvement, the breathing attacks getting less frequent and the pulse stronger and more regular. Her general weakness was very great and she gained strength only very slowly. By the end of February of this year she was able to go out into the garden for a few minutes, and to walk up and down stairs."

TOXIC DISEASES OF THE EYE

There is presented, in *The Birmingham Review* for July 15, an excellent résumé of the toxic diseases of the eye, by J. Jameson Evans, surgeon to the Birmingham and Midland Eye Hospital.

It is dufficult to explain these cases otherwise, unless due to chemic agencies. Even in tobacco amblyopia, the lesion may be due to nicotine, but also to intestinal toxins caused by tobacco interference with digestion. The special features suggesting toxicity are:

1. No pathogenic organism found in the lesion.
2. Reproducing the lesion by introducing the toxin, as with Calmette's tuberculotoxemia reaction.
3. The lesion differs in type from that induced by direct action of the same toxic organism, as in metastatic gonorrheal conjunctivitis.
4. Tendency to symmetric or bilateral distribution.
5. The activity varies with that of the focal lesion; tendency to variation, recurrence, and relapse.
6. Tendency to rapid and complete recovery when the supply of toxin is cut off.
7. Constant association of symptom-complex with definite focal lesion, dyscrasia or drug, with no evidence of direct infection.
8. Symptoms abate under specific serum or antitoxin.

No disease is absolutely toxic in type. The two main types are the inflammatory and the nervous.

The inflammations are relatively mild; with prominent lymphatic involvement, chronic if the toxin supply is continuous, and marvelously quick to subside when the toxin is cut off; variable, apt to relapses and recurrences.

The nervous lesions affect the motor or the sensory apparatus; central scotoma is important, and changes in the blind spot evidence disease of the optic nerve. The most important test is Bjerrum's. Priestley Smith, Bardsley, and Haitz and Haycraft made useful modifications.

The toxics affecting the eyes are thus classified:

1. Chemic agents: tobacco, iodoform, alcohol, quinine. These divide into two classes: (1) a retrobulbar axial neuritis, from tobacco, alcohol, iodoform, carbon disulphide, tea, coffee, antipyrin; (2) those with optic atrophy, from lead, quinine, methyl-alcohol, filix mas, atoxyl. Exudative choroiditis, retinitis, paralysis of accommodation, and pemphigus have been assigned to ptomaines. An intermediate class, containing the neuroretinites, and toxic amblyopias with central scotoma due to thyroid extract.

2. Perversions of body functions: enterogenous toxins, including the rheumatic, angioneurotic edema, acne rosacea, recurrent vitreous hemorrhages, retrobulbar neuritis with central amblyopia ascribed to hyperchlorhydria, or chlorosis, gout, gastro-intestinal disturbances in children, chronic glaucoma, disease of ductless glands, as exophthalmic goiter and myxedema, xerosis.

Ocular disease may be due to sexual troubles, pregnancy or lactation. This albuminuric retinitis is largely due to nitrogen retention; amaurosis gravidarum, to chloride retention. Paresis of accommodation warns us of approaching eclampsia. Some maladies occurring about the menopause are toxic.

Leber's disease—hereditary optic atrophy—presents symptoms highly suggestive of toxemia. Diabetes affects the eye, as is well known; so does nephritis.

3. Toxins produced in infected areas include oral sepsis, nasal sinusitis, tuberculotoxemia, metastatic gonorrhea, diphtheria, and bacillus coli infection.

While not complete, this outline gives some idea of the important role played in ocular maladies by systemic infections.

HEREDITARY TUBERCULOSIS

According to *The Hospital* for November, 12 1910, as cited in *Merck's Archives*, Landouzy and Laederich, at a recent meeting of the Academie des Sciences, gave an account of their researches into the transmission of tubercle bacilli from the maternal organism to the fetus.

One hundred and forty-three little guinea-pigs born of tuberculized mothers were examined. Fifty-seven of these, killed either in utero or immediately after birth, showed no evidence of tuberculous lesions either macroscopically or microscopically, nor bacilli in the viscera. On the other hand, the viscera of four fetuses taken from the uterus of a tuberculized guinea-pig and inoculated into two healthy guinea-pigs rendered them tuberculous. Sixty-eight guinea-pigs born of tuberculous mothers were allowed to live a few months, when they were killed and of these sixteen showed definite tuberculous lesions localized exclusively in the lungs.

These facts would appear to support the theory of Baumgarten that children born of tuberculous mothers may be infected with a latent tuberculosis which develops only at adolescence or even later.

With regard to the transmission of a hereditary taint, the authors note a high mortality among the offspring of these tuberculous animals and the frequent occurrence of congenital malformations, amounting to 4.6 percent. Their observations would seem to confirm the view that the transplacental toxiinfection from a tuberculous mother tends to enfeeble the offspring and cause a degeneration of the race.

This question of the actual transmission *in utero* of the tuberculous virus has been extensively investigated ever since Koch's original researches, and in Germany Baumgarten, aside from his pupils, is practically the only one who still insists upon the hereditary transmission of tuberculosis in the form of its germ. It has been shown, especially by the classical experiments of Gaertner, that the tubercle bacilli can not pass through the placenta unless this is pathologicaly altered, and the few cases on record in which fetuses or infants were found actually tuberculous at birth prove the exception rather than the rule.

Another question is that of the opinion first advanced by Courmont, to the effect that, in the case of tuberculous mothers, tuberculous toxins are transmitted from the placental to the fetal circulation and that these render the infant hypersensitive to a later tuberculous infection.

The investigations on this subject have been carefully reviewed and discussed by Achard in a paper read before the Chicago Medical Society in May, 1910, and were published in *The Illinois Medical Journal* for September, 1910, to which we refer our readers for more detailed particulars.

The insistence of Landouzy upon an actual transmission of tubercle bacilli as an all-too-frequent occurrence is, it seems, mistaken and not in keeping with ascertained facts.

More conservative and in agreement with known facts are the results of the investigations of Prof. S. Arloing, Lyon, France, which we take from *Tuberculosis* through *The Lancet-Clinic* for January 14. This investigator's conclusions are as follows:

1. Consumptives seldom communicate tuberculosis to their descendants through their conceptional life.
2. On the contrary, they often transmit to them a certain functional debility which renders them accessible to the various causes of lethality or which retards more or less their development.
3. The influence of the ascendancy on the products is manifesting itself particularly when the tuberculosis is raging in the mother or simultaneously in the mother and father.
4. It is difficult experimentally to prove a real native or hereditary predisposition to tuberculosis.
5. However, the descendants of consumptives are more sensitive than other subjects to certain effects of tuberculization, and are showing more frequently than children born of normal parents a notable proportion of agglutinine in the blood-serum.
6. The question relative to the predisposition to tuberculosis requires new researches before it can be solved.

THE WHY OF TOBACCO

The most remarkable thing about tobacco has been, not so much the all but universal craving of mankind for the weed, as the absolute inability of anybody to proffer even a plausible reason for this preference. When tobacco was first introduced to the Hottentots of Cape Colony, they desired the sickening stuff so badly that they traded for it their herds, although the certainty of coming starvation in consequence should have prevented such squandering.

Now we have at last a reasonable, and even scientific, explanation, in that tobacco smoke has been determined to be in high degree germicidal. This vindicates the Hottentot. Still, it leaves the further query: How did he know it? And how knew he that cholera was on its way himward, that this malady was due to the comma bacillus, and that the pyridin in tobacco smoke was death to the crooked little pest?

MISCELLANEOUS ARTICLES

Is Antityphoid Vaccination Dangerous?

THE editorials have recently appeared in *The New York Medical Journal*, the first being an abstract of an article written by Louis and Combe, two assistants of Prof. Vincent in his laboratory for antityphoid vaccination at Val-de-Grâce, in Paris (*Monde Médical*, December 5, 1912). In this article the value of antityphoid vaccination as a prophylactic of typhoid fever in the French army is amply shown, and, as the editor of our New York contemporary correctly says, "these excellent results indicate that a higher percentage receive some immunity than by the English vaccine."

However, the editorial writer in question lays particular stress upon the long list of contraindications enumerated by Vincent and his assistants. Among these, he mentions pharyngitis, influenza, coryza, bronchial and pulmonary affections, acute gonorrhea, syphilis, cachectic states, Bright's disease, diabetes, and various other more or less serious diseases.

Malaria, he asserts, may be lighted up by prophylactic vaccination, and in tuberculosis there is said to be a severe reaction similar to that following the injection of tuberculin. The editor also quotes Spooner, of Boston, who declares that the vaccine may cause the lighting up of any latent disease, and the inference conveyed is that a latent tuberculosis may be converted into an active tuberculosis by the use of this prophylactic measure.

In the second editorial, one case-report, taken from the Army records, is cited, that of a man who developed an active tuberculosis following prophylactic treatment against typhoid fever.

This is, apparently, a somewhat serious indictment, but before taking it too seriously we should read the other side first. In the United States Army, typhoid vaccination has been tried upon a larger scale than anywhere else in the world. The results have been so brilliant, and the drawbacks so slight, that thus far they have not been serious enough to merit any considerable amount of discussion. This is very clearly shown in an article by Lieutenant Colonel Kean, of the Medical Corps of the United States Army, replying to the editorial attacks of *The New York Medical Journal*. This article is of such interest that we reproduce it from the *Journal* in its entirety.

SNAKES IN IRELAND

War Department,
Office of the Surgeon General.
Washington, *April 10, 1913.*

To the Editor: The casual reader of the editorial article in your issue for April 5, 1913, entitled "The Dangers of Antityphoid Vaccines," especially if he did not have an opportunity to read in full the articles upon which the editorial comment is based by Professor Vincent's assistants, Doctor Louis and Doctor Combe, in *Monde Médical* for December 5, 1912, and Doctor Spooner, in *The Journal of the American Medical Association* for October 12, 1912, might readily infer that this procedure has dangers which are considerable and not negligible. It is believed, however, that this inference is a mistaken one which is not justified by a careful reading of the articles in question and by a study of the vast experience, on record in the office of the Surgeon-General of the Army, covering more than 100,000 immunizations.

It is true that Louis and Combe detailed with considerable fulness the conditions which they consider to contraindicate the employment of the vaccine. Spooner also recounts incidences of temporary exacerbations in cases where the immunization was employed in persons suffering from various diseases. The conclusions of these authors, however, differ in no respect from those of Russell as expressed in *Circular No. 7*, Surgeon-General's Office, April 24, 1912:

"*No person should be immunized who is not perfectly healthy and free from fever at the time.* In case of doubt, it is advisable to take the temperature and to examine the urine. If the man has fever or any other signs of illness, the prophylaxis should be postponed until he recovers. This precaution is necessary, to avoid its administration to men who may be coming down with typhoid or other fevers. The men should be cautioned not to drink beer or alcohol in any form on the day of treatment. This prophylaxis is borne well by children and by women, using doses proportionate to the body-weight, taking 150 pounds as the unit. Women should not be given the first dose during or near the time of the menstrual period."

These suggestions are simply the suggestions of common sense and experience and do not imply that the procedure applied with any reasonable amount of precaution is dangerous in any accepted meaning of the word. None of the writers quoted have stated any case in which a permanent injury has been caused by this procedure and their conclusions are far from being in any way adverse to it.

Louis and Combe conclude their article as follows: "*We are thus undoubtedly in possession of a method which, it is not claiming too much to say, is for typhoid fever as efficacious as is the vaccination of Jenner for smallpox.* The results which it has given in Morocco have surpassed all hopes and convinced the most skeptical."

"Antityphoid vaccination," recently wrote the chief medical officer of the Hôpital Louis at Meknès, "is followed here in an intensive fashion. There remains in all the garrison only about 200 unvaccinated Europeans. The results are surprising. The typhoid wards, formerly so crowded, are today almost empty. With more than 4000 troops, there are actually only two typhoid cases under treatment. It is wonderful."

The conclusions of Spooner, in the article referred to, are as follows:

"Frequent injections of small amounts of a low-virulence vaccine cause slight inconvenience.

"They seem to produce a protection among nurses, who are eight times more liable to the disease than the average individual.

"Their morbidity, under ordinary conditions, is 1.4 percent or nineteen cases among 1361. Only two cases developed under these conditions.

"Case-morbidity among the uninoculated in these hospitals is nearly nine times greater than among the inoculated subjected to similar conditions.

"No permanent untoward effects have arisen from over 5000 injections.

"The blood-picture indicates a certain protection lasting at least two and a half years.

"The use of this means of protection has been shown to be safe in two epidemics, and very efficient in at least one of them."

In the great recent experience of the United States Army, where typhoid immunization is compulsory, although temporary inconveniences and accidents have occurred which should properly be classed as disagreeable but not dangerous, there seems, after a reasonable discrimination is exercised between *post hoc* and *propter hoc*, no grounds for belief that this procedure is any more dangerous than vaccination against smallpox. It does not appear to have increased the morbidity from any other cause. Even as regards tuberculosis, it does not appear to have stimulated into activity latent processes in any appreciable number of cases. The average rate per mille of admissions for tuberculosis during the three years of 1910, 1911, and 1912, during which there have been more than 100,000 immunizations, has been 3.56, as compared with an average rate of 4.43 admissions per mille for the three years antecedent to 1910.

On the other hand, there is a real danger in an attitude of unjustifiable pessimism and excessive precaution. The only officer of the United States Army who died of typhoid fever in 1912 would in all human probability have escaped being cut off in the prime of life if the typhoid immunization had not been withheld on account of the recent arrest of a pulmonary tuberculosis in his case.

Is not the conservatism rather extreme which would seriously weigh the slight inconveniences of typhoid immunization against its remarkable benefits, and which solemnly declares that the question of its adoption is still *sub judice*, when typhoid fever is so near extinction in the Army that the Surgeon-General has not received the report of a single case in the Army during the current calendar-year, the date of the last case reported being December 9, 1912?

J. R. Kean,
Lt.-Colonel, Medical Corps, U. S. Army.

We agree fully with Colonel Kean, that there is "danger in an attitude of unjustifiable pessimism and excessive precaution." In this country, at least, there is little evidence to justify the long list of contraindications enumerated by Louis and Combe, and the single case of latent tuberculosis awakened into activity cited by the *Journal* is too palpably exceptional to excite alarm.

Prophylactic typhoid vaccination in our army has proven safe as well as efficacious and we can reasonably hope for similar brilliant results in civil practice. We urge American physicians to use it, and to use it widely.

PELLAGRA TREATED WITH SODIUM CACODYLATE, THE SULPHOCARBOLATES, AND CALCIUM SULPHIDE

I do not like to appear in print too frequently, but I have had a little experience that I just cannot forego relating to the readers of Clinical Medicine. I have so often been helped by reading the many short practical articles by its contributors that I am constrained to give this experience, so, that it may be of some service to someone else, perhaps.

We all have learned enough about pellagra to make us dread it above every other disease. I cannot say positively that I have found a cure for pellagra; in fact, I do not believe that any physician, American or foreign, has as yet found a specific for this disease.

I have attempted to read everything I could find on the subject, and I have discovered a very wide range of opinions on the best methods of treatment. I myself am of the opinion, very strongly, that, when we see a case of pellagra showing the symmetrical eruption on the hands, feet or neck we then have a well-organized and deep-seated disease of the nervous system to deal with at once, and that, if we expect to do anything for the patient, we have more to do than simply to treat the eruption as we find it on the integument. I believe that, if we are correct in making a diagnosis, we should begin the heroic treatment at once. All the hand-lotions or applications for the cure of the eruption without the systemic and intestinal-mucosa treatment is time lost to the patient.

Early in March a married woman about 21 years of age presented herself with a very pronounced rash on both sides of the neck and on both of her hands. She told me of having had a similar rash two years ago which did not give her much trouble, but followed the second year by a more marked and pronounced outbreak. The second attack was treated by another physician, who pronounced the trouble simple sunburn. This year, the third outbreak, the symptoms were decidedly more marked.

The woman was very nervous, more so than she had ever been before. Her bowels were badly deranged, the dejections being offensive and of thin, watery consistency. The eruption involved all the exposed portion of the forearm and neck and was identical on both hands and on each side of the neck. The tongue was blood-red in color, the gums were red and sore, the tonsils painful and swollen. Temperature was normal; pulse, 100; no discernable irregularity in the heart's action. Since the return of these symptoms this year she had been unable to sleep at night, her appetite was poor, and she was in a general rundown state.

The patient appearing very nervous at the time of her first visit, I did not give her my diagnosis, for fear of augmenting her already nervous trouble, but next day saw her husband and told him that I considered it pellagra. I informed him that I could not do much for his wife except by a course of hypodermic treatment, and this was assented to.

I began treatment by giving an injection of cacodylate of sodium, giving 2 grains on March 6, I also directed the patient take one tablet every three or four hours of the combined sulphocarbolates as an intestinal antiseptic, and calcium sulphide, in 1-grain doses, three times daily. When I saw the patient twenty-four hours after the first injection I found her doing fairly well, no unusual symptoms having appeared.

On the third day I gave a second dose of 2 1-2 grains of cacodylate of sodium hypodermatically, and—it does seem almost unreasonable to say it, but such was the fact—the eruption, from the fourth day, began to fade away very rapidly; the tongue assumed a more normal aspect; the patient was not so nervous; she could sleep much better; and the bowels began to improve markedly, the movements now being reduced to about three or four a day.

The fourth injection was given on the sixth day after the third injection. The patient now, however, began to complain much of confusion of eyesight; but at this I was not surprised, for I had seen this symptom before. The fifth, sixth and seventh doses of the cacodylate were given further apart each time, the seventh being administered on the fourteenth day after the sixth.

The intestinal antiseptic and the calcium sulphide have been given almost continuously since the beginning of the treatment.

At present the patient is improved so much that she is considered cured by her friends. But this is exactly the point that I desire to bring out—I want to know whether this woman is actually cured. I do not know whether she is likely to have a return of her trouble. Will not some members of the "family" kindly give us their opinion? I report this case that we all may be helped by the discussions in the journal.

Joseph W. Gregory.

Cisco, Tex.

[We want a good live discussion of this paper and that of Dr. Pixley, which follows. Let us hear from our southern brethren.—Ed.]

PELLAGRA CURED BY DIETETIC TREATMENT

Three years ago, at the Pellagra Conference held in Columbia, South Carolina, I offered a paper embodying my views concerning the role of rancid fats in the diet as a cause of pellagra; but only a limited time was granted me, and it was only through the kindness of Dr. C. C. Bass of New Orleans, that I was permitted to present my views with reasonable fulness. (See Clinical Medicine, August, 1911, p. 884.)

Quite naturally, the question has been put to me why the ingestion of fats should engender this disease, and, so, I have formulated my explanation in a letter recently addressed to Doctor Bass. The substance of that communication is embodied in the abstract I am presenting herewith.

At the beginning I am emboldened to say to the readers of Clinical Medicine what I wanted to make plain at the Conference; towit: *There is no drug cure for pellagra; but it is the most easily cured disease of which I know.*

Furthermore, the prevention of pellagra is easy and this dreaded malady can be swept off the face of the earth simply by teaching people the right things to eat.

I will premise my remarks by saying that my conclusions are based upon a study of eleven hundred cases. Five out of the total of these 1100 victims are dead; but, so far as I know, the others are all living and feeling well—and 7 of them had typhoid pellagra.

And now to our subject. If you are running an automobile, you have learned that, to insure the motor working well, one must use a proper mixture of gasolin vapor and air. If too much air enters, the motor is weak; if there is too much gasolin, the motor becomes full of soot, that is, carbon.

Just so, if the human motor is to run at its best, it must be fed a proper mixture of protein, carbohydrates, and fat. Until the Studies of Starling and Bayliss were given to the world, in about 1896, our knowledge as to how these classes of foods acted was imperfect. Up to that time it was thought that the body could work indefinitely upon either one or two kinds, or all three, in any relative proportion, provided hunger was satisfied.

To me, the error lay in placing protein under the head of foods. While this substance may serve to sustain life (by being oxidized), its primary office, after it is digested by the pepsin and hydrochloric acid of the stomach, is to stimulate the formation of secretin when coming in contact with the prosecretin of the duodenum; the secretin, thus formed, being taken to the liver and pancreas, then stimulating the latter glands to action. Following a proper meal, in the case of a person of about 150 pounds and doing much labor, a pint each of bile and of pancreatic fluid is discharged into the duodenum through the "common duct." The amount of protein needed to produce this modicum of bile and pancreatic fluid is about one ounce at each regular meal.

What occurs if one gets less protein than is indicated? Here I must call your attention to the problem of atrophy and hypertrophy. The fish of Mammoth Cave have no eyes. After working in a twenty-feet-square office for fifteen years, I had lost my far-point of vision, but this power was restored again after widening my horizon. The blacksmith's arm held in a sling loses its fulness and strength, but both are regained by proper use before fatty degeneration takes place. To keep any function of the body up to 100 percent, that function must be performed steadily up to 100 percent.

So, then, if the liver is not kept up to full capacity by the stimulation from a requisite amount of protein, taken at proper times, it becomes atrophied to the point of suiting its regular, reduced, work. One may as well expect a bookkeeper, with his atrophied muscles, to do the day's work of a woodchopper, as to expect the liver or pancreas habituated to a given task suddenly to increase its functioning when called upon by an unusually rich meal. Or, how can an eye accustomed to see not farther than twenty feet be hoped suddenly to "shoot" accurately at a target five hundred feet distant, or more.

If the body must have the services of a pint of bile three times daily, for the digestive process, to meet the requirements of our present mode of life, what would be the result if only half, or less, that amount were excreted as the rule? Plainly, the results would be of a twofold nature: (1) with respect to the body, and (2) involving the liver and pancreas.

First, as to the body. The body requires, to enable it to do its best work, the laxative effects of the bile in normal quantities. A deficiency forces the employment of cathartics and cholagogs—repeated without end. It makes for imperfect emulsification of fatty foods and, with a deficiency of pancreatic juice, interferes with their digestion and that of the carbohydrates, as well as with the glycogenic function of the liver. Then, also, think of the retention in the body of waste matter that should escape in the bile secreted in normal proportions but is retained because of diminished function, with the autotoxemic symptoms of many kinds as a result.

In pellagrous patients, deficiency in protein consumption usually is associated with a marked increase in fats in the diet; and the fats of necessity *must* turn rancid in the digestive tract, fatty acids being abundantly present. In this doubly acting wrong, the constitution of the blood is impaired and every part of the body lacks proper nourishment.

Among these systemic impairments, that of the nervous system, from the diminishment of the hemoglobin, stands forth prominently. The alkaline reaction replaces it. The intestinal antiseptic influence of bile is gone, and germ growth flourishes. This recital does not by any means complete the list of woes, but it will do for our purposes.

Second, as to the liver. And, what is said here is equally applicable to the pancreas, functionally and physically. Here now comes in some of my imagination, some of my speculations.

The salivary glands work in response to any kind of stimulation—any kind of food or savory substance or vapor in the mouth, or the sight or the thought of such, normally stimulates them. And, so far as I know, they are the only glands that are thus affected. [According to Pawlow, the gastric secretion is influenced by psychic stimuli in a similar way.—Ed.]

In the stomach, the digestive agents are responsive only to protein. Fats and carbohydrates provoke no response of the pepsin and hydrochloric-acid secreting apparatus.

The difference in chemical reaction between the stomach and the duodenum causes a relaxation of the pylorus, with a resulting moving of acid stomach contents into the gut. The commixture with the prosecretin here encountered generates secretin, and the secretin, carried to the liver and pancreas, provokes bile and pancreatic fluid. No protein, no action of liver and pancreas. Little protein, little action of those large glands.

Those persons who have been my pellagra patients were accustomed to eat, many of them, five ounces of cornbread and three or four ounces of hog-grease three times a day, this representing about 70 calories in protein, 600 calories in carbohydrates, and 2400 calories in fat (estimated), and the otherwise usual rapid action of bile and pancreatic fluid upon an ordinary meal must be weak and prolonged in the case of rations like these. But the influence of 70 calories in protein, in the inciting of glandular action, would count for much less than that of 800, this giving time for decomposition, germ growth, and toxemia.

It is under precisely such conditions that inflammation of the stomach, or the cecum and appendix, or descending colon, or rectum, or parts of all of the peritoneum appears in severe or mild forms.

I wish to tell you that many times I have thought that appendicitis is the most frequent form of development in this condition of diminished liver and pancreatic action due to deficiency of protein in the diet; but of course, I cannot prove it. Remember, I am surrounded by very pronounced and numerous examples of this error in diet.

I will here record my definition of pellagra, as follows:

1. Pellagra is one of the various shades of deviation from normal digestion—a disturbed action of the digestive organs, due to errors in diet—this tending to local lesions in various parts of the body, caused by systemic empoisonment from intestinal infection.

2. The changes in the liver, functionally, owing to deficient protein in the diet, have been mentioned. The change in it, physically is one of atrophy. While protein, fat, and carbohydrates usually are combined by nature in the vegetable foods, the first of the three is in deficient quantities and requires to be supplied by ourselves. If this is not done, the liver and pancreas become habituated to responding daily to one-tenth or less of the stimulation required to keep all the cells composing these glands up to the normal capacity. When an unusual stimulation comes to them, they are unable to respond.

You see, we are getting down to other diseases, besides pellagra, now. We are getting down to why germs are so numerous and destructive, and are found everywhere. I opine that many of them are not the *fons et origo mali*.

When one considers what happens when the protein is supplied daily in amounts of 1200 or more calories for long periods of time, one thinks of kidney, heart, and artery diseases, instead of pellagra and like derangements.

My course with all pellagra patients is to try to reestablish hepatic and pancreatic functions by means of protein in such amounts as these inefficiently acting organs will bear increasing the amount weekly. This, of course, in addition to the use of such drugs as seem indicated.

The rapidity with which the patients recover is gratifying, unless the error has been so long-standing that a degeneration—fatty, fibrous or cancerous—has resulted. That is a different story.

To those of my readers who have followed me I will say that my aim has been to show you some of the thoughts in my mind regarding pellagra, and why, in my opinion, fifteen advanced pellagra patients sent north as material for study, and who were expected to die, surprised everybody by getting well!

C. S. Pixley.

Winnsboro, N. C.

A CORRECTION

Our London correspondent writes us as follows: "I wish to correct an error (I was about to say a printer's error, but I forbear, lest I expose myself to sarcastic editorial remarks as to the illegibility of my handwriting in comparison with typewriting) that has crept into my letter as printed in the April issue. I refer to the article on 'Splenic Extract and Tuberculosis,' that appeared in *The Lancet*, and the author's name of which was erroneously printed as Hanover. It should have read Dr. Henry R. Harrower." We present the desired correction.

Of course our readers will know at once that the person referred to is Dr. Henry R. Harrower, formerly of Chicago, and then the editor and publisher of *Physiological Medicine* and of *Successful Medicine*. Dr. Harrower is now busily engaged in professional work in London.

AMERICAN MEDICAL EDITORS' ASSOCIATION

The American Medical Editors' Association will hold its annual meeting at the Hotel Radisson, Minneapolis, June 16. There is promise of an interesting program and, as usual with this Association, a splendid time. The annual banquet will be held in the same hotel upon the succeeding evening.

Let us hope that every physician who

to the disease in order to contract it. This predisposition may be hereditary or it may be acquired. Many families are so predisposed; just why this is true, I do not know, but it is a fact.

The symptoms of hemoglobinuria are such as not to be easily interpreted. The person who has been suffering from chronic malaria is suddenly attacked with a severe chill, and on first passing urine, this appears black and bloody. It is thick with broken-down red blood-cells, usually passed in large quantities.

At first the eyes become a deep-yellow, then soon the whole body; this jaundice coming on with great rapidity, the body becoming deeply jaundiced in a few hours. Rigors are very severe and frequent; there is great restlessness, tossing from side to side, but no special pain; the patient vomits every few moments, the vomited matter being tinged with bile, sometimes with blood, and if it has lain long in the stomach it is black and resembles the black vomit of yellow-fever.

Sweating often is very profuse. The temperature never is high, ranging usually from 102° to 104° F.; the pulse is soft and compressible, becoming rapid and weak. The bowels are constipated; the breath offensive and the tongue covered with a thick yellowish coat.

If the urine does not clear up in twenty-four hours, there usually is suppression, and this generally is the beginning of the fatal ending; for I never have known the kidneys to resume their function where the suppression was complete. On the other hand, I have never witnessed a fatal ending if the kidneys continued to secrete the normal amount of urine. When the urine clears and is plentiful the prognosis always is good.

Now as to the treatment. It is evident that the successful management of hemoglobinuria consists largely in elimination, and for this purpose purgatives in large and repeated doses clearly are indicated. Calomel is the remedy *par excellence*, to be followed by saline hydrogogs. "Dilute the blood and wash out the kidneys" should be the slogan. Give the patient plenty of water and demulcent drinks. Effervescent citrate of magnesia solution is a nice and efficient remedy, also, effervescent magnesium sulphate.

Prescribe the cold infusion of digitalis, to support the heart and flush out the kidneys. Do not make the mistake of giving any remedy that will irritate the kidneys. Always remember that there already are great pathological changes in the liver, the spleen and the

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that are seemingly written that the
may display his knowledge, and th
absolutely impractical and useless to
of us who compose the rank and file
profession.

I frankly confess that such ultra s
papers are to me but as "a soundir
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***Read before the Clarksdale and Six Count**
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has taught that quinine in this
has no value, but rather seems to produce renal suppression; for quinine being eliminated by the kidneys, it probably is harmful. But in what may be termed "pseudo" cases, the drug is certainly indicated.

By "pseudo" cases I mean those frequent hemorrhagic forms in which every intermittent paroxysm produces some little hemorrhage from the kidneys. Here the examination of the urine under the microscope will show blood-corpuscles in their entirety, and not the corpuscle debris that is seen in true hemoglobinuria. Physicians sometimes acquire cheap reputations by curing of "blackwater-fever" when it is of this pseudo kind. These patients usually get well promptly under quinine, or any other treatment, for that matter.

We must remember that in hemoglobinuria we are not trying to destroy malarial parasites, for they already are dead; rather we must endeavor to assist nature to eliminate poisons of various kind from the blood. Should complete suppression of urine come on, this work must be done by other organs. Try Pilocarpine by needle, hot baths, continuous irrigation of the bladder with hot water; strychnine to support the heart and respiration. Normal salt solution injection is one of the truly great remedial measures. Other remedies may suggest themselves, always bearing in mind the pathology.

The temperature of itself never becomes an element of danger. In fact, in some cases there may be no rise of temperature after the first day and, yet, the patient may die of uremia.

Persons who have once been attacked by the disease are very prone throughout life to further attacks. The second or third usually proves fatal; so, all persons after suffering an attack should be warned to remove to some locality where the disease is unknown. No special treatment in the convalescence period is called for.

WEDEN T. SMITH.

Jeffris, La.

APRIL COPIES WANTED

If any reader of CLINICAL MEDICINE can spare us his copy of the April, 1913, number, we shall be glad to advance his subscription one month to pay therefor. We are sorry to say that our supply of this issue is entirely exhausted. Send in your copy and notify us by letter or postcard that you have done so; that will be sufficient to insure proper credit being given—in addition to personal thanks in advance.

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Flood scene in Missouri, near home of Dr. H

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WHAT SHALL WE WRITE?*

What shall we write that will be of interest, or that will in any way help any member or advance the interest in and general welfare of our profession?

Recently I read in a medical journal an article the title of which was, "How to Write," in which the writer said: "There are oceans of stuff printed in medical journals and books that merely adds to the bulk and increase the work of the editor, without adding any useful thing to the profession's stock of knowledge." All of us who read current medical literature can not fail to be impressed with the very large number of such papers published, papers that are seemingly written that the writer may display his knowledge, and that are absolutely impractical and useless to those of us who compose the rank and file of the profession.

I frankly confess that such ultra scientific papers are to me but as "a sounding brass and tinkling cymbal," and I believe that a very large percentage of my fellow practitioners will agree with me. Again I quote from the article mentioned above. The writer says: "We are deluged with articles voicing just one idea, 'Send me your patients.' Others are compiled from the works of standard authors that are accessible to every doctor who reads."

In the Bible we can read that, on one occasion, the Angel of the Lord appeared to Saint John in a vision or dream and said unto him, "Write the things which thou hast seen and the things which are." Regularly, twice a year, our secretary appears to me (not in a vision or dream), but by letter or postal card, and says to me, "Write." He is not as kind to me as was the angel to Saint John, in that he does not tell me what to write, but leaves me to solve the question unaided. I am free to confess that I have found the solution very difficult.

We meet here twice a year, for what purpose? The purposes of this society are enumerated in the constitution. Among other things the constitution says, "That, by frequent meetings, and full and frank interchange of views, they [the members] may secure such intelligent unity and harmony in every phase of their labor as will elevate and make effective the opinions of the profession in all scientific, legislative, public health, and social affairs, etc." I would suggest that, to the other purposes of this society we add, "and exchange our personal and individual experiences at the bedside of the sick and afflicted." Why? Because history teaches us that, since the profession of medicine has been known, it has only been advanced and elevated by the personal and individual experiences—and often the life sacrifice—of the members of the profession.

How did the profession, and the world, learn the role played by the mosquito in the spreading of yellow-fever and malaria? Only through and from the personal experience, and life sacrifice, of a few brave members of our profession.

While we know that men and women are all created after the same plan or model, that each sex possesses, largely the same organs, created for the same purposes and possessing the same functions, we soon learn there are differences, learn there are individual characteristics, differences in the development of the different organs, also different mental characteristics, so that no two individuals are exactly alike. Hence I would suggest that we study our cases, but more especially our patients, and note any peculiarities, and when we find anything unusual write it down and report it, so that all of us may share the knowledge and profit by the experience.

If we do this, we shall each and all be benefited, and often someone of us get help over difficulties that, without this help, would have perhaps been insurmountable. For example, many of us know that during the past few months this beautiful little City of Clarksdale was afflicted with quite a number of cases of typhoid fever. While the prominent symptoms in each of these cases were so nearly the same that a diagnosis of typhoid fever was justifiable, I venture the assertion that the physicians treating these patients found no two cases exactly alike; that they found in each case some peculiarity not found in others, and which often forced them, in some particular, to change the routine of their treatment.

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*Read before the Clarksdale and Six Counties Medical Society, Clarksdale, Miss.

These are the things of which we should write; in other words, write of the things we have seen, give our individual experience, always striving, and hoping that we may write something that will help our brother physicians.

H. C. BUCK.

Friars Point, Miss.

FLOODED OHIO

We are printing on this page a picture sent us by Dr. James L. Neave, of Dresden, Ohio, who writes:

"Don't have any flood experience if you can avoid it—it is more pleasant to read about than to be mixed up with. I have been camping for a month and am very far from being straightened out yet. I was run out both of house and office, and when I got back was up against mud and destruction. Maybe a fire is worse. I didn't know that water was such a nuisance. I am enclosing a picture of the square wherein my office is located—it is close to the dentist-sign on the right of the picture."

HOT-AIR APPARATUS: INFORMATION WANTED

I should like to ask all readers of CLINICAL MEDICINE who have a hot-air apparatus the following questions, and have them write me direct:

1. Have you a body-apparatus or a limb-apparatus, or have you both; and what make are they? (2) Should a physician very much interested in the hot-air treatment have both kinds of limb-apparatus; or, if he can afford only one apparatus, which of the two should he have? (3) Do you get good results from your hot-air treatments? (4) When the body-outfit is used, how long do you keep the pa-

locality where the disease is unknown. No special treatment in the convalescence period is called for.

WEDEN T. SMITH.

Jeffris, La.

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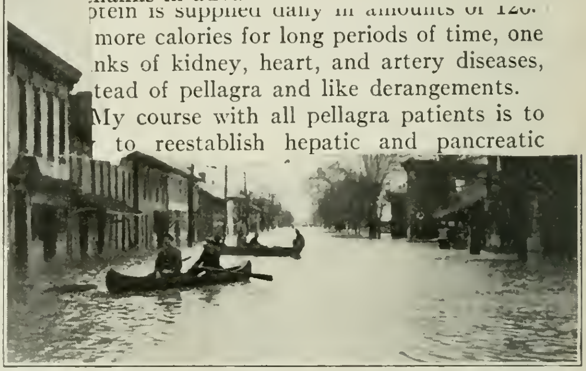

Main Street, Dresden, Ohio. Home office of Dr. Jas. L. Neave on the right

are so reliable when it comes to a hard pull for life. I push the granules to effect and then keep up the fight for life. Have had several very bad cases of pneumonia on hand this winter and spring, but have not lost one patient—so you see I make good with the tiny little granules—aconitine, digitalin, strychnine, and veratrine; a combination of three in the defervescent compound and the dosimetric trinity. I give the defervescent compound in sthenic cases, and the dosimetric in asthenic ones; whether it be pneumonia, or other type of fever.

I have just read the article by Dr. J. M. French on "The Materia Medica of Active-Principle Therapeutics," and think it is fine and would suit any doctor who knows anything about the treatment of fevers by means of the active-principle method. I heartily agree with Dr. French. In cases of typhoid fever I was taught, under the old plan, not to give calomel after the initial dose. But I see it different now. In place of letting the disease run its own miserable course unhindered and have its way, we should have a way of combating it and the following is my way:

First give calomel, 1-6 grain, 6 doses; then give castor oil. After free bowel action, use the intestinal antiseptic of three sulphocarbolates to effect. Use the calomel every second or third day to keep the bowels open. Also give nuclein. Strychnine to support the patient. Give tepid baths, with or without alcohol, as convenient.

Flood scene in Missouri, near home of Dr. Hodges

Give no solid food, but only a liquid diet. When the patient is very frail and weak give egg-nog freely. For hemorrhage, if present, give ergotin and hydrastis, which give good results. Ninety-five percent of my patients get well, some cases being aborted, some cut short many days. So you see I could not get along without those granules and THE CLINIC.

We are now, and have been, in the overflow, as you will see from the two postcards I am sending. One shows my house, and the other my stock-wagon and buggy, and the Cotton Belt Railroad. Just in front of my residence you will see I am standing on the railroad track and also standing in the water, with me being my neighbors, Mr. Paulham and Mr. Winslow, my wife in a boat, and Mrs. Paulham on a box placed on a floating sidewalk at their gate. You see our haste to wear hip-boots to practice medicine in southeast Missouri.

DUFF M. HODGES.

East Prairie, Mo.

THE DAYTON FLOOD

I am sure you will want to hear from Dayton and the fearful flood, the greatest and most destructive inundation ever known in Ohio.

Our city is located in the Miami Valley and here the Stillwater, Mad, and Great Miami rivers and Wolf Creek form a junction and flow to the Ohio River. This valley is one of the most productive sections in the United States, and Dayton is its center and metropolis.

On Friday, March 21, it began to rain over the entire valley, and the rain increased in severity until Tuesday, March 25, filling all the streams, which began to pour over their banks. At 9 o'clock in the morning the levees, or banks, in our city began to break, and by 5 o'clock the lower portions of the city were inundated, the water in places standing 12 feet deep.

By Wednesday noon the flood had reached its highest point, being in some places 21 feet deep, and more than two miles wide. The rush of water was so swift that on streets, alleys, and open spaces it swept away buildings, washed out sidewalks, tore out great blocks of asphalt pavements, carried street- and traction-cars from the tracks, dislodged the great iron railway-bridge, undermined many buildings, and floated all frail buildings and loose objects down the awful current. Thousands of people were marooned in their homes, unable to get away. Then the relief-boats were brought into service, but there were so few that they could relieve only a small portion. All the while the rain was falling steadily.

Another flood scene—Dr. Hodges ready for high water

It is absolutely impossible to describe the terrible destruction of property wrought or the dreadful scene displayed when the waters subsided. Hundreds of families were rendered homeless, and business of all kinds suffered

A Dayton scene of the work of flood and fire. Near here Dr. Staub saved 22 lives

severely. The loss of life will never be definitely known. The coroner's report to date names 108, but many have lost their lives who will never be found. Some have died from shock and exposure, while the saddest feature is the fate of those who have lost their reason, and are domiciled in the insane asylum, as a result of the terrible calamity.

The photograph showing four houses destroyed by fire during the flood (marked by X) shows where the conflagration originated. Two old ladies, 79 and 83 years of age, respectively, were alone and unable to get out. One started to light the gas, when there was an explosion, blowing out the window and part of the wall and setting fire to the building, while terribly burning the two old ladies. In order to save themselves, they jumped into the water, when one of them drowned, while the other caught hold of some wreckage and was able to hold on till it was my fortune to rescue her.

It so happened that I had just delivered a woman in confinement only two hundred feet from there and was getting into the waiting boat when the explosion took place. Assisted by Mr. Frank Yenger, I hastened to the rescue of the old lady, and then we took 22 persons from the adjacent burning buildings. The old lady I rescued from the water was so severely burned on the hands that her fingernails dropped off, while her face was also badly burned; death relieving her of her suffering four days afterward.

It is not possible to describe the ravishes of the flood, no pen can portray the terrible scenes during and after the high water; at the intersections of streets the current was so swift that it required a good boatman to row across. Several brave men lost their lives trying to rescue the people in distress.

It is estimated that 200 persons lost their lives, that 1200 horses perished, and that $250,000,000 worth of property was destroyed.

The spirit of Dayton is optimistic, and, while it will take time to regain her normal condition, she will yet be a Greater Dayton. We are at this moment anything but in a state of gloom. Civic pride marks the countenance of all. Thousands had thrilling experiences they will never forget. Those who together go through such an experience are made friends and henceforth work together for the common good, while the outside world is drawn nearer.

Everywhere there is great human sympathy, brightened by good cheer, and offers of help and credit. With this assistance, and situated, as we are, in a valley as rich and resourceful as Miami, we shall not be long in getting a fresh and firm footing. Nevertheless, we feel that the government, both federal and state, should not permit such a calamity to visit us a second time. If the streams are properly taken care of, such a disaster cannot be repeated.

G. S. Staub.

Dayton, O.

THE RELATION BETWEEN GALENICAL PREPARATIONS AND THEIR ACTIVE PRINCIPLES

An important paper from the point of view of medical practitioners was communicated to the March evening meeting in London of the Pharmaceutical Society, in which the author, Mr. H. A. D. Jowett, D. Sc., discussed the question of the advisability of replacing galenical preparations with their active principles. He adduced evidence to show that while the sole use of active principles, either singly or in combination, is the ideal state of administration of remedies, it is at the present time in the majority of cases impracticable.

In spite of the enormous amount of attention which has been given, especially in the last ten years, to the subject of standardization, there exists very little actual knowledge as to whether the therapeutic effect of a solution of the active principles of a drug is equal to that of a galenical preparation standardized to contain the same amount of

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*Reprinted from the London *Lancet*, March 29, 1913.

A view of wreckage left by the Dayton flood

active principles. There are cases, however, in which our knowledge is sufficient to warrant the statement that the galenical preparation can be replaced adequately and advantageously by the active principle or combination of principles. For instance, the preparations of jaborandi are difficult to assay since the percentage of total alkaloid is an unreliable guide to their activity owing to the differing activities of pilocarpine and isopilocarpine, and the determination of the pilocarpine in the total alkaloid is a matter of considerable difficulty; it would therefore appear advisable and preferable to use pilocarpine and its salts in medicine and to abandon the use of the galenical preparations.

Another case where the preparation may be replaced by the alkaloid or its salts is that of physostigma; although eserine is somewhat unstable, there are several salts which are stable and very suitable for use in pharmacy. Again, the case of the use of the pure alkaloid cocaine in preference to that of the galenical preparations of coca is strong, and ergot is in the same category. All the known physiological effects of this drug can be explained by the presence of certain bases, and the time has arrived for the medical profession to determine by experience what combination of these bases is necessary for the effect they desire.

Another class comprises drugs from which the active principles have been isolated and investigated, but about which there is a doubt whether these principles represent the full activity of the galenical preparations. The most striking examples of this class is opium. It seems to be universally admitted that a solution of morphine has not the same therapeutic efficiency as laudanum of the same morphine content, and it has yet to be decided to what the efficiency of the laudanum is due; and although it is satisfactory to note that a determined attack is being made on this problem, it is not likely that laudanum will be replaced for many years to come.

Cinchona presents some similarities to opium, inasmuch as the use of its chief alkaloid, quinine, has increased of late years enormously, but the use of the galenical preparations has persisted side by side. Dr. Jowett is of opinion, however, that it might be possible to delete cinchona preparations from medicine and use only the salts of quinine, and he expresses the hope that some therapeutic trials on this point will be made and the matter settled, because there are still a few physicians who believe that preparations of cinchona bark have virtues not possessed by quinine, and this belief has not been experimentally refuted.

Similarly in the case of the solanaceous group there is a number of drugs in which the same active principles occur, but in spite of this the use of galenical preparations is still continued. The three most important of these drugs are belladonna, henbane, and stramonium, and what is needed is more accurate and extended information regarding the therapeutic and pharmacological action of the pure alkaloids and their stereoisomerides and of different combinations of the same; when this has been accomplished the use of the different galenical preparations can probably be abandoned as unnecessary.

Of drugs whose active principles are modified in their physical properties by physiologically inert substances which occur in the galenical preparations the best example is nux vomica. There is no dispute as to the nature of the active principle, and not only is the full physiological effect produced by strychnine, but the presence of the accompanying alkaloid brucine has been stated to be actually undesirable. Solution of strychnine hydrochloride is supposed to have disadvantages compared with tincture of nux vomica, the chief being the danger of precipitation of the strychnine when dispensed with certain drugs, and it is therefore safer to prescribe the tincture in those cases where there is a possibility of the separation of the alkaloid.

Another drug in this class is digitalis. On the supposition that digitoxin and gitalin are extremely potent and that the other glucosides are less active, and with the information that digitoxin is insoluble in water, it would be expected that a tincture of alcoholic extract would contain the greatest proportion of these active principles, and therefore be most efficient therapeutically. On the other hand we should not expect an aqueous infusion to be as active, since this could only contain a small portion of digitoxin. Yet the contrary is the case, for the infusion, according to the latest researches, is the most active galenical preparation, and digitalis affords a particularly difficult problem.

Dr. Jowett dealt, in conclusion, with drugs where the active principles, if any, that have been isolated in no way represent the full physiological activity of the drug and the galenical preparations of which cannot be standardized either chemically or physiologically. As the chief example he referred to drugs having a purgative action—e. g., rhubarb, senna, cascara, aloes, and podophyllin. Our knowledge of the chemistry of vegetable purgatives as a class is very incomplete and unsatisfactory, and with the exception of aloin, very little progress has been made in the direction of replacing the galenical preparations with the active principles. Cannabis indica is another drug which affords an excellent example of a potent and valuable drug, long used in medicine, which up to the present has refused to yield up its secrets to the investigator.

It is obvious that much investigation remains to be carried out before galenical preparations can be entirely replaced by active principles, and the work should be carried on by pharmacologists, pharmaceutical chemists, and clinicians working in unison.

—*The Lancet.*

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[It is gratifying to know that the active-principle idea is at last receiving belated consideration in such ultraconservative quarters. Its expression is naturally tentative and cautious. Constituted tribunals of science, such as Dr. Jowett represents, are always noncommittal; to which, in this particular case, must be added the temperamental conservatism of the Englishman. All of which is very good and right; and to many of the exceptions and provisos suggested by Dr. Jowett's circumspection, of course, we readily assent. Nevertheless, we cannot help feeling that this conservative spirit is exhibited a little too strongly, not to say unreasonably.

It is quite true, for example, as Dr. Jowett says, that the abstraction and utilization of the active principle in place of the galenical drug is in many cases impracticable, at least in the present state of our pharmacological and pharmaceutical knowledge—although it is undoubtedly practicable to a greater extent than Dr. Jowett credits.

It is also true, as the doctor points out, that, in spite of modern standardization methods, we are still largely in the dark as to the therapeutic equivalence between the active principles of a drug and the galenical preparation standardized to contain the same amount of those principles. But why this should be used, even as a tentative argument, against utilizing the active principles, we cannot quite see. It does not seem that such a consideration is material to the question. At all events, wherever it is material, it militates in favor of the active-principle.

Presumably what Dr. Jowett means is that certain whole drugs appear to have a therapeutic action which transcends the combined actions of its active principles, so far as we know them. Evidently this is what he has in mind, from his later reference to laudanum, which, as he says, has a different therapeutic efficiency, with a given morphine content, to the same amount of morphine in solution. This, however, is one of the disadvantages of standardizing a drug on its dominant active principle, to the ignoring of other principles present in it, and is one of the strongest arguments for active-principle pharmacology. It is interesting to note, in this connection, that laudanum is almost out of fashion in this country, except as a "household" remedy. American physicians almost universally employ the much more dependable and more efficacious alkaloids—morphine and codeine.

Dr. Jowett cites also nux vomica as another instance of this kind, but, curiously enough, offers this example as a plea for active-principle therapy. Except as a bitter tonic nux vomica is also rarely used. Who thinks now of trying to elicit full physiologic action with "nux"?

But, even assuming that in certain cases the whole drug may have, not only a different, but a superior, therapeutic action to that of the combined actions of its active principles, so that for the present we must prefer the galenical in those cases to the active principle—as one must freely admit is the case with cannabis indica—still that constitutes no objection to the abstraction and employment of the active principles in their proper sphere. And, what is still more important, the active-principle method offers practically the only road to an ultimate standardization of the drug, even from that standpoint. With such drugs, no less than with those whose active principles have been identified with the entire pharmacological activity of the whole, Dr. Jowett's own significant words apply: "The time has arrived for the medical profession to determine by experience what combination of bases is necessary for the effect they desire." In these words Dr. Jowett has summed up the entire philosophy of active-principle therapy.

We cannot refrain from exclaiming, after the English fashion, Hear, hear! to the closing remark of the editorial here reproduced. If only we could have persuaded the profession of this necessary cooperation between the pharmaceutical, pharmacological and clinical branches of medicine in working out the active-principle idea when we first began to preach it, active-principle therapy would have been a *fait accompli* by this time.

We trust that Dr. Jowett's pronouncement will stir up a proper spirit of interest and inquiry in those medical circles which for so many years have turned, one is almost tempted to think, a wilfully deaf ear to the pleadings of truth and reason.—Ed.]

BARBER'S ITCH. RHUS POISONING

Observing the treatment for barber's itch recommended by Dr. C. E. Quinn, I will offer my own, which always has proved successful in my hands.

After thoroughly cleansing the affected part with soap and water and wiping it dry, I apply the following ointment twice daily: Carbolic acid crystals, grs. 20; sodium sulphite, grs. 20; washed sulphur, oz. 1; lard, oz. 1. At times this treatment has effected a cure in two or three days.

I have also used the same ointment for ringworm and rhus poisoning. However, in the latter case I avoid the application of water, as this is likely to overlap the inflamed part and thus spread the infection.

I unite with the members of the large Clinic "family" in expressing deep sorrow for the loss of dear Doctor Epstein. He was the Nestor of progressive medicine in America, distinguished alike for charity, wisdom, and virtue. *In coelo quies* for him.

George D. Stanton.

Stonington, Conn.

"THAT THY DAYS MAY BE LONG"

Blest is the man who knows when he has had enough. Wise is he who realizes that, of all the good things for which men may strive, the best is the continuance of life, so as to enjoy life's fruitage. Happy is he who sees his progeny growing up, to take over his burdens as his active faculties decline. The stream, erstwhile rushing in power from its mountain source, grows sluggish in the lower levels, but finds its current and volume sustained by fresh springs welling along its bed.

To every man comes the day when the fruits of his labors turn to apples of Sodom in his mouth; when his energies are dashed by the pessimistic suggestion, "What's the use?"

As we learn to trace the physiologic origin of mental phases, we look on such aberrations as pathologic manifestations rather than as ethic or phychic conditions. So, when John Stuart Mill tells of his rescue from this slough by the happy advent of an affinity, although the autobiography describes the connection as purely platonic, the modern physiologist may say nothing, but he does some thinking.

The key to this state of mental fatigue is furnished by writers' cramp. The brain has wearied of the same set of exertions repeated for years, but any new mental combination is accomplished with ease and with the freshness of earlier days. Any change is a physiologic rest. Yet it is unwise to make radical changes abruptly, without preparation. Our bodies in the course of time acquire many little habituations and compensations, the existence of which we rarely suspect but which enable us to transgress the laws of correct living almost with impunity. Sudden changes of the habits of a lifetime, after one has passed the mobile period, betoken rashness and ignorance.

When the business of life begins to pall, the zest gone, the routine wearisome, take a week's rest. Let this "rest" be physiologic. Get thee to the woods, to primitive conditions, surroundings and ways. Inhale the fresh, pure air of the opens. Cook your own meals over a fire of sticks gathered with your own hands—do you so much as know how to gather wood for a fire?

If the results of your week's outing are good, take one week from each month. Next year take each alternate week, and after that make one week of each month suffice for the treadmill. Thus shall you arrive at the possibility of freedom by gradual emancipation. *Tuto et jucunde*, and *cito* enough for the need.

With freedom comes the problem of what to do with it. Let us assume your familiarity with the laws of personal hygiene, as applicable to the aging man. You are aware that the colon is the habitat of the bacillus senilitatis; you have learned how best to keep your alimentary canal clear and clean. You realize that digestive power declines as age approaches, and that the dietary supply must be regulated by the digestive capacity rather than by the appetite. You are learning by experience the unwelcome realization that you are not as young as you were and that exercise pushed to fatigue entails retribution instead of increasing strength. Business matters are so regulated as to secure to your age an adequate provision for its needs, for you have obeyed the injunction to be "diligent in business."

The meaning of the Antæus fable comes to you, as you realize the renewal of vitality following contact with Mother Earth. You keenly relish the smell of upturned mold, the songs of the birds, the dewiness of morning, the various voices of the night, the forest, the river, the lone places; the miracle of growing plant-life, the interrelations of bird, beast, insect, flower. No mortal ever made a gold-piece sprout or to lay an egg; but see the bulb-spears shoot up through the soil, and note how peach and vine respond to your care.

The first question is, where to live?

Younger men err in seeking to avoid the winter's cold, for it increases vitality. The polar bear withstands even the midsummer heat, as well as other depressing noxæ, better than does the lion born in the Sahara. But we are dealing with men past the developmental era; and, so, we say, it is a mistake for such men to languish under the exhausting heat of midsummer, or to shiver before the blasts of winter, or to spend their days crouching over the furnace-register or to bake in a steam-heated apartment.

The ideal calls for a summer residence far enough north to be enjoyably cool, and another for the winter, located sufficiently south to eliminate the danger of frosts. Conditions of airiness, view, shade, bathing, drinking-water, supplies, accessibility; freedom from disease, mosquitoes, tramps, fashion, and other drawbacks are to be considered.

Taken all together, the shores of the large lakes are to be preferred. Here in Chicago we look to Lake Michigan for summer and the Mexican Gulf for winter as presenting the best opportunities. Go up to Mackinac Island in summer and note the exhilarating qualities of the air. It is well worth the trip. So long as the ties with the great city are not completely severed, we must select a location which, while far enough north to secure that climate's advantages, is yet within speedy, easy and inexpensive reach of the "busy mart of trade."

What to do there?

Relax. Wear old clothes. Don't shave. Go barefoot. Wear a bathing-suit all day, so that you may take a plunge in the lake whenever the spirit moves. Botanize. Gather berries, flowers, mushrooms. Have a farmlet, and raise vegetables, flowers, grapes, berries, fruits, bulbs or mushrooms; chickens, pigs, hares, rabbits, goats, guinea-hens, pigeons, ducks, geese, turkeys, guinea-pigs, foxes, dogs, cats, ponies, cattle, grandchildren. Annex a few fatherless orphans and make them happy while developing them into manly men and lovable women. Robert Morris deserves the thanks of all for suggesting nut-farming as a diversion for elderly men. I have planted, in Michigan, English walnuts from Manchuria and look with interest toward the result.

Don't be afraid of monotony—Dr. Streeter, in that inimitable book, "The Fat of the Land," says: "Monotony! There are more things happen on a farm than you ever dreamed of!" There is no end to the things one may do with a five-acre farm.

Then, when the autumn declines and "November's winds blaw loud wi' angry sugh," we follow the wild ducks to the sunny South. Twenty-four hours from Chicago lands one in New Orleans, whence the gulf coast and that of Lake Pontchartrain are easily accessible. Another day brings Florida within reach. There must be many a good location waiting along the west coast, as yet unspoiled by the demon of "development."

While one is about it, he may as well go beyond the frost-line, there where real luscious tropical fruits may be raised successfully—bananas, oranges, lemons, grapefruit, sapotes, limes, soursops, tamarinds, custard-apples, pineapples, etcetera—and you have to go there to realize what is embraced by that mysterious etcetera. How about a pecan grove? One scarcely has to "raise" pecan-trees—all he has to do is to let them grow. A totally different line of live-stock is possible here, and one may vary his experiences by raising alligators, terrapin, frogs, oysters, and just what else we hope to be in position to say in another year.

The northern summer homes may be connected by a cruising-boat, if one is not satisfied with the opportunities for enlivenment proffered. The run from Chicago to New Orleans by water is one the writer has made, and thereby enriched his memories beyond valuation.

At each end of the suggested duplex home there are yet to be found tracts that are of little cost in money, although they are being taken up rapidly. Shortly before his death George William Curtis stated that the whole southern shore of Lake Erie had been occupied, by the wealthy residents of Buffalo, Cleveland, Toledo, and other lake-cities, for summer homes. Wooded land along Lake Michigan it now is almost impossible to find unoccupied. Property of this sort bought three years ago as an investment is selling at three times its purchase price today. Shorelands sold a few years ago for the taxes are now bringing $1000 an acre.

The land-hunger increases as cheap Government land becomes a thing of the past. The man who invests a thousand dollars in such property now is apt to find within ten years its value so high that he can scarcely afford to live on it.

But it is foreign to my purpose to advise men nearing age to invest in land with a view to profit. Let that come incidentally, if at all—just something to keep the young ones in due respect for papa's judgment. Get a place, the limit being $1000, for land, house, and improvements; and make of it what you please, the first object being a home.

With such conditions for promoting longevity, the question does not seem to be how long a man may live, but why should he die!

WM. F. WAUGH.

Chicago, Ill.

KEEP OFF YOUR FEET

"Keep off your feet," the doctor said
With mien, oh, quite severe,
"Your being on your feet so much
Will later cost you dear.

"Your trouble's of a nature that
Requires completest rest,
If you will just keep off your feet
Then time will do the rest."

I sat and pondered, when he left,
And thought o'er what he's said,
I'd mind him—for to suffer so,
I might as well be dead!

The doorbell rang, it was the post;
The children came from school;
A neighbor rapped, she's like the loan
Of white thread, just a spool.

Now Johnnie's face was such a sight,
It must be washed right off;
And I must rub poor Susy's chest,
To ease a nagging cough.

The doorbell rang—a caller came,
And quick as she has gone,
Wee Willie came a'weeping in,
He'd had a fight with Don.

And mother was the only one
To set these matters straight.
"Keep off your feet," the doctor said,
I'd jumped up three times eight!

"But now, the children off to play,"
I said, "I'll lay me down
And get a good long rest before
Their father comes from town."

The doorbell rang—an agent now;
I closed the door to hear
The phone-bell ringing merrily—
A voice, "Why Ellen, dear,

"Our church will have a big bazaar.
We've put you on the list
To bake us four or five nice cakes
To sell—I know you will enlist."

The backdoor now—the groceries come.
The meat I must prepare,
For supper-time is almost here,
Each kid a hungry bear.

I get the meal and wash the babes,
And straighten up my hair,
Put father's slippers where they're warm,
And strive my pain to bear.

The meal all done, I then begin
The babes to tuck and tend,
And then go back at last to sit
And mend, and mend, and mend.

My dreams that night were bliss indeed.
I dreamed a white-robed one
Had beckoned me and in my sleep
I gladly followed on.

We came into a peaceful spot
Where signs around were spread,
"Keep off your feet," "Keep off your feet,"
Was what on all it read.

A couch was there, to lay me down
And keep me off my feet,
A cozy, comfy, cuddly chair
To rest would be a treat.

I would not have to stand or jump
Around a dozen times,
"Keep off your feet," those blessed words
Rang in my ears like chimes.

I felt a peaceful languor then
Come stealing o'er my frame;
"Keep off your feet"—to disregard,
Why, that would be a shame.

I heard a distant tinkle then,
I thought it Heaven's lyre;
"Wake, Ellen, the alarm has rung,
And we must start the fire."

I woke up to another day
Of madly living life.
"Keep off your feet," the doctor said
Ah! would he were a wife.

"Keep off your feet, oh woman,"
And "Time will show you health."
These are a doctor's slogans,
A doctor's way to wealth.

And any woman with a home,
Will laugh to hear it said.
I think I shall keep off my feet
When Time shall find me dead!

"Annette Fowler."

Pasadena, Cal.

[This was written by a doctor's daughter-in-law, who has been a patient herself. It is a good thing for doctors to know that advice which is easy to give is often difficult to follow.—Ed.]

THE MEXICAN PEOPLE AND MEXICAN PROBLEMS

Recent events in Mexico City must seem somewhat strange to our present-day Anglo-Saxon mind, and, really, if it were not for the modern armament used here, one would think himself removed to medieval times.

If we study our own history a little, we find that we do not need to criticize Mexicans for the brutal way of waging war, because when our forefathers made revolutions they were every bit as brutal as are the Mexican of today. Cromwell was not a bit less cruel than Zapata, only then there were no newspapers to horrify their readers; also, the French Revolution does not make us kindly disposed to its leaders, although we celebrate the Fourth of July with ringing of bells and popping of corks and a great deal of prating of the divine rights of people.

Is it not rather inconsistent how people will yell about their rights and never remember about their duties? Madero belonged to that kind. Dreaming about redeeming a people that really did not want to be redeemed, he does not remind us so much of Christ as of the other redeemer, the hero of Cervantes with his life-work to "*Deshacer lostuertos*"; and by his tragic end he revealed to us the sublime side of the grotesque.

Madero's dreams, however, have cost a country a tremendous amount of suffering, loss of life and loss of wealth; but it has also served to reveal the true character of the people, who, as long as they are held in leash, are of a gentle, if lazy and good-for-nothing, disposition. They have not yet been taught that happiness is a product of their own manufacture. They believe that the government must provide it for them.

When I first knew Madero, he seemed to me a vulgar agitator of the worst type, something of what is known in the United States as a "walking delegate." In his propaganda, he addressed himself exclusively to the worst elements; prevaricating, distorting facts, belittling the noblest ambitions of his opponents, and flattering the vilest passions of his hearers. Yet, it seems to me that the man was honest in his belief, considering himself an apostle and liberator of his people, though himself a product of teachers of anarchistic ideals.

It is said that peace under a bad government is better than a good revolution. Under Madero's government the country would have gone to pieces, for he surrounded himself with the very worst advisers he could get, distrusting the few really good men at hand, both in the cabinet and the army. Men who were doing good work in different parts of the country, putting down the revolution successfully, were removed from their commands and put in places where their usefulness was brought to an end upon the advice of cabinet members and others who fomented the revolution for their own ends.

A fine example of cactus grandiflorus

A company of Mexican rebels

Madero was a paranoiac imbued with his own (perhaps lofty) ideals. He was under the influence of autosuggestion, exercising, as such beings will, a tremendous influence over the ignorant masses, but lacking coordination. He became an easy tool in the hands of unscrupulous advisers. He was rich, a member of an ambitious and altogether unscrupulous family. If he had lived, he would have been a constant menace to the present administration, as well as succeeding ones. Since he was a one-idea man, he never would have become reconciled to being ejected from the presidential chair. Legal rights, even though acquired by illegal means, were everything to him.

The United States Government is largely responsible for his death. Huerta seemed to be inclined to clemency and would have been satisfied if he had left the country. By Huerta's orders a train was waiting to take him to Veracruz and all precautions were being taken for his safety. To make this doubly sure, the train was to leave during the night.

In the meantime the American ambassador went to Huerta, by orders from Washington, for the purpose of exacting Madero's safety, since the United States would look with disfavor upon the execution of this man. The ambassador would be expected to retire if anything happened to the deposed president. Huerta gave the dignified reply that he would guarantee Madero's safety if the United States would guarantee Madero's peacefulness in the future. The order for his deportation was countermanded, and that night Madero and Pino Suarez died (by the bullets of their would-be liberators, it is officially stated) when on their way to the penitentiary. At any event, whether their death was caused by friends or enemies, without the interference of the United States Madero would have left that night on the train that was waiting for him and at this time would have been in Cuba with his family or in some other country.

Mexico should be allowed to manage its own affairs in its own way, suited to its own nature. The Anglo-Saxon can never understand the working of the mind of the Latin-American people, any more than he can understand the Orientals. It is a certainty that they cannot be governed by our kind of laws and customs, just as tropical products can not be raised by the methods of the northern farmer. When our own nation was laboring under identical conditions, the people were allowed to develop in their own way and by their own means, without being hampered by the criticism of foreigners and aliens.

Mexico was doing very well, indeed, under Porfirio Diaz, in spite of the fact that unsympathetic foreigners are constantly offering their criticisms. There were more liberties in Mexico than are enjoyed in the United States. The people were free to work, to make fortunes if they wanted to and had the capacity to do so; and, incidentally, to honor the fatherland by being good and efficient citizens. Also, they might loaf, drink, brawl, and dishonor the country, which most of them diligently did do.

The drunken, brawling, lazy, and thieving element was in evidence everywhere and the jails of the country could never have held them. The better class of people breathed with relief when these good-for-nothings could be disposed of by sending them to *el valle nacional* to work, with a chance to redeem themselves. There they were paid good wages, but they hardly ever received the full benefit of the money, which has to be applied to expenses originated by their own misbehavior.

Then came Diaz's overthrow. This also was contributed to largely by American dollars furnished by Rockefeller and others, but still more by the unfair criticism of Americans. A sample of the latter was "Barbarous Mexico," which was published in *The American Magazine.* By the way, the author of that article has lately published, in Mexican papers, articles about the United States, attacking his own country far more than he ever did Mexico. Since I know he lied when he published "Barbarous Mexico," all decent people must form very unflattering opinions concerning Mr. Turner when he now talks about his own land in the same way.

Mexicans are no worse than other people, except that they are in the same stage of evolution that we occupied a hundred or two hundred years ago.

Imagine our country then, peopled by our forefathers, who were sturdy men and women taught to rely entirely upon themselves for all and every one of their necessities, and then bring such disconcerting elements into their lives as modern railroads, telegraph, steam-engines, etc., and you would have about as much confusion as there is here. We were educated gradually and in a manner which prepared us for the modern changes, which also came to us gradually, while the Mexican Indians and halfbreeds had them thrust upon them suddenly without any preparation whatever. This, very naturally, has thrown them off their balance and as yet equilibrium has not been reestablished. If you add to this the attempt to rule a primitive people with modern laws, you may expect confusion.

You might cite as an example of the contrary the just rule of the English in India, but that example does not hold when you reflect that the administrators of the law in India are Englishmen, renowned for their justness, while here the administrators of justice are men of the same primitive race, who, though educated, have inherited their native traits.

If Mexico and the Mexicans are let alone, they will surely, albeit slowly, forge ahead, and, who knows, some day may serve as examples to the Saxon race. They have produced great and noble men and, though the great mass has degenerated, truly great men are not rare in all walks of life; nay, they are so plentiful (as I shall demonstrate later on) that they are an assurance for the future of the race.

A. R. Hollmann.

Apatzingan, Michoacan, Mexico.

THE WORLD OF DWARFS

Ours is a world of dwarfs, with only a sprinkling of giants—mentally, we mean, not physically. Take out the occasional giant—eliminate, in any age, the exceptional big man—and what a really small people we are, after all!

It was only twenty years ago that the last witch was burned; only ten months ago that a poor degenerate was hanged by the neck; only four weeks ago that a man supposedly intelligent on his deathbed ascribed the restoration of his eyesight to a miracle worked during a visit to a "sacred shrine" abroad; only yesterday that a prominent citizen "sat down and ate two pounds of pig," then died.

"All but about one percent of our fellow creatures when in trouble trust to charms, incantations, and the 'saints'," said Osler recently. "Mentally, the race is still in leading strings."

The last witch has been burned (so, at least, we hope), but we wonder how long it will be before the last of the prudes is consigned to oblivion.

All the progress of the world must be credited to the few giants who, providentially, have found their way hither; and in every period, from the very beginning to the present moment, they have *pushed* forward with might and main, while the dwarfs, in one solid body, have determinedly resisted every advance. So, the efforts of the few enlightened people who seek to illumine with the lamp of learning the dark places where vice flourishes meet with constant opposition.

million prudes oppose the one big, courageous man who says, "Let there be light."

The man who works in this direction encounters discouragement, opposition, at every turn. At the very outset of his course he experiences the unconcealed distaste of the community for the discussion of "unsavory topics." He bumps up against hypocrisy, full-armed and shrieking.

But it is consoling to note that the trend is ever onward and now at an accelerating pace. The voice of prudery is less emphatic than formerly. Where before there was a disposition to cover over and conceal vice (that it might not "offend a polite society"), there now is a growing disposition to investigate it, with the view to eliminating it, or at least to subtract from it some of its viciousness.

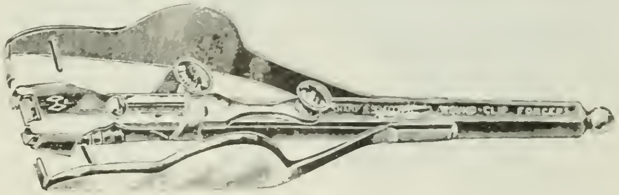
Slowly the truth is being pounded into the mass-mind, welcome or unwelcome. We see the impression that is being made by people of caliber and courage, such as Robinson, for example; also Hollen, of this city, a younger man but yet a virile and fearless writer. The latter, in his latest book, "The Taint," shows up as it never has been before the terrible inroads which the vice-diseases are making in this country under the cover of darkness, while, for the public good, he discusses prophylaxis more fully and with greater clearness than any previous writer. His conviction is that "the longest sermon ever preached is less effectual (toward checking the spread of venereal disease) than a single dram of a good prophylactic."

DROPSY DURING PREGNANCY

During the past twenty years I have had considerable experience with women suffering from albuminuria during gestation. My method of treatment is, largely, to give full doses of the powdered extract of apocynum (reliable make), rubbed up with sugar and put into capsules, one of which is administered before each meal.

In some very severe cases I give at the same time, singly, either specific tincture of cactus, or specific tincture of convallaria in pill form, or cratægus, also given three times per day. In my hands this medication has proven invaluable and is very prompt in its effect.

Zanesville, O. G. STRATTON FARQUHAR.

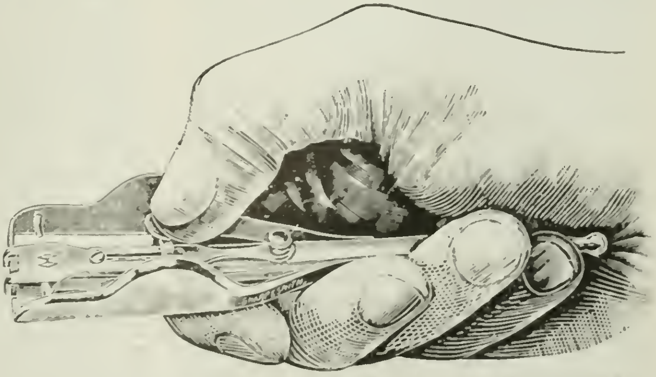


Magazine of 25 clips

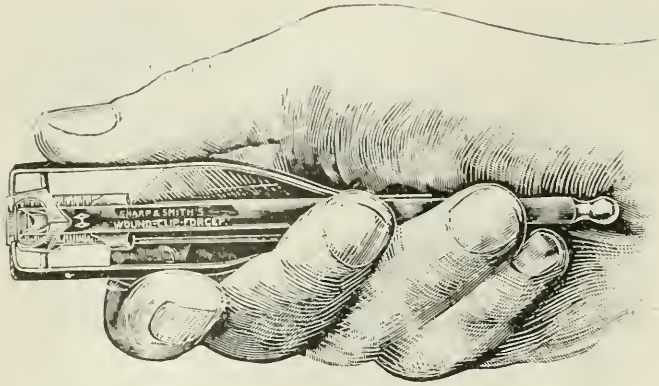
[Thank you, doctor, for the suggestions, and let us have more. Our own method is much the same, except that we depend upon the more concentrated preparations of these drugs. With cratægus we have had little experience, but it seems to be a valuable remedy. Attention to the alimentary tract is, of course, imperative in these cases.—ED.]

THE NEW WOUND-CLIP FORCEPS

The wound-clip forceps illustrated herewith is a new device which the writer believes will meet with the decided approval of every physician doing any minor surgery. The instrument is selected for particular notice for the single reason that it renders the busy doctor independent of sutures and needles (usually inavailable in an ideal form when most urgently needed) and enables him to



This illustration shows the thumb pushing a clip forward into position



This illustration shows a clip in position ready for application to wound

secure perfect apposition of wound edges without torturing his patient or subjecting him to the danger of stitch abscesses.

The device is small enough to be carried in the pocket and so simple and certain in operation that anyone can use it effectively. With the forceps and its magazine of aluminum clips goes an apposition forceps with which the lips of the wound are brought together. The jaws of the suturing instrument then ride the apposed edges and a single pressure of the surgeon's fingers fastens the minute-toothed metal-clamp in place. Another movement of the thumb brings the next clip into position and it is possible to suture a four-inch wound in two or three minutes. The clips are flexible and any degree of tension can be secured by elevating or depressing the center of band when in position.

The illustrations tell the rest of the story. The appliance is marketed by Sharp and Smith, Chicago.

G. H. Candler.

Chicago, Ill.

CRIMINALS AND WAR

Language is the medium of expression whereby two human beings may transfer their thoughts. But sometimes the transfer is marred in passage, and the thought is not presented to the recipient exactly as it left the mind of the sender.

Something in my editorial of the April issue, entitled "Crime Wave Versus War," made a reader very angry. He wrote and told us so. We have studied the offending screed again and again, but, still, we are not sure what did offend him.

Possibly he may have construed our words into a reflection against the soldier and questioning of his patriotism. Well, the writer has himself worn his country's blue and faced death in her service; so that he is not likely to undervalue the brave men who rallied to her cause. But he adheres to his story, and believes that a war might have drawn off most of these young bandits, and given their activities a free scope and legitimate employment. He has no sympathy with crime, but much with the criminal, especially when he sees reason for attributing his derelictions to unnatural environment and repression of faculties designed for noble uses under suitable conditions.

These rascals have shown daring, adroitness, cleverness in their "get-aways"; in truth, about all the qualifications characteristic of the successful soldier, those which go to the makeup of the popular hero—and that these men are such in the eyes of numerous adolescent youths of both sexes, may be readily ascertained by anybody who cares to investigate.

W. F. Waugh.

Chicago, Ill.

ILLINOIS DOCTORS AGAIN!

In the editorial department this issue we have called attention to some legislation pending in the Illinois legislature.

There is one other bill with which you should be familiar. I refer to the Manny bill (Senate Bill 381). This is a proposed pharmacy law, and in the main seems to be all right. However, it has been suggested to us that it is not just clear how this bill will affect the dispensing physician.

There should be nothing obscure about bills of this kind. Too many "jokers" have appeared in apparently harmless bills, as an illustration of which I refer you to the item elsewhere concerning the Ohio law, which was passed so quietly during the last day of the session of the legislature that even doctors who happened to be members of the legislature said they knew nothing about it.

Request your members of the legislature to watch the Manny bill—watch it until it is finally disposed of. Attend to this matter.

In this connection, let me remind Florida physicians that a number of bills inimical to their interests are pending in that state.

JUST AMONG FRIENDS

A DEPARTMENT OF GOOD MEDICINE AND GOOD CHEER FOR THE WAYFARING DOCTOR

***Conducted by* GEORGE F. BUTLER. A. M.. M. D.**

WHAT I am about to say this month is rather personal, but in view of the fact of its interest and significance I am sure I shall be pardoned for mentioning my personal experience and the institution I am connected with as Medical Director.

I came to Mudlavia in the early spring, and I have been greatly impressed since I have been here with the urine analyses. In nearly every case of rheumatism, sciatica, gout, neuritis, and nervous affection the patient has shown a very high degree of urinary acidity and, in the majority of instances, a large amount of indican. The systems of these patients are clogged with waste matter: acid waste products, that have accumulated during the winter months, when they have eaten more and eliminated less than they do in the summer months. This is the reason why more people suffering from diseases that are produced or aggravated by autointoxication frequent sanitariums and hospitals and consult physicians more in the spring than at any other time of year.

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Autointoxication is very common and should always be taken into consideration in the treatment of any disease, but I find it is an element in almost every disease I have occasion to treat. It is a potent factor in the trouble of nearly every patient who comes to Mudlavia, and the Mudlavia treatment is largely directed to the eradication of this condition.

The doctrine of autointoxication is a very old one, the central idea of the primitive conception surviving in the term rheumatism as applied to a condition due to the autointoxication resultant upon systemic suboxidation. Many of the morbid states now regarded as autotoxemic were, of old, charged to "rheums." Obesity and allied states were placed, in the sixteenth century, in the nosologic position they occupy today.

In Sydenham's time, the effects of these conditions were even better recognized than during the middle decades of the nineteenth century. Sydenham pointed out that suppressed gout (that is, gout without joint expression) exercised marked influence on the constitution. "The body," he remarks, "is not the only sufferer, and the dependent condition of the patient is not his worst misfortune. The mind suffers with the body, and which suffers most is hard to say. So much do mind and reason lose energy as energy is lost by the body, so susceptible and vacillating is the temper, such a trouble is the patient to others as well as himself, that a fit of gout is a fit of bad temper. To fear, anxiety, and other passions the gouty patient is a continual victim; while, as the disease departs, the mind regains tranquility."

Autointoxication is a broad term; the condition manifests itself in various ways. When we speak of autointoxication, we think once of faulty digestion, hepatic insufficiency, imperfect elimination, and defective metabolism.

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Probably the most common form of autointoxication is what has in recent years been termed acidemia, a condition of the body in which there is an accumulation and retention of an abnormal amount of certain acid waste products. The mixed 24-hour urine is normally acid in reaction, the acidity being due to certain acid salts, principally diacid-sodium phosphate (NaH_2PO_4), although other acids salts are usually present, but in smaller amounts. The urinary acidity, contrary to the general belief is not in the least due to the presence of uric acid.

The normal degree of acidity of the urine is from 30 to 40. When the degree is below 30 (the difference between the degree indicated and 30 shows the degree retained in the system), it indicates renal insufficiency or a decided suboxidation, this producing renal strain. In cases in which the degree of acidity exceeds 40, imperfect oxidation is extreme; which, irrespective of the types of acid, underlies, and is now almost generally recognized as, severe constitutional stress allied to that of diabetic acidosis.

Harrower writes as follows: "The index of urinary acidity undoubtedly varies in direct ratio with the metabolic changes going on in the body. The manufacture, as waste products, in the body-cells, of acid substances—of which sulphuric acid is probably the most important—must have a decided influence on this factor. In addition to this, certain products of intestinal putrefaction when absorbed into the blood are eliminated in the urine and thus serve to increase its degree of acidity. . . . The examination of a large number of specimens leads me to believe that high urinary acidity is associated in a majority of cases with low urea output and with other metabolic disturbances, possibly of the uric-acid type, but not necessarily so."

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I have found that high urinary acidity and indicanuria quite frequently are associated, and I begin to believe that this high acidity is due to the same conditions that cause the presence of indican and the conjugate sulphates. At all events, in patients showing excessively acid urine, bacteriological examination of the feces, in a majority of cases, demonstrates a severe infection within the intestines, together with putrefaction of their contents and the inevitably resulting autotoxemia.

High urinary acidity, indicanuria, and a low urea-index are very closely related and have a definite effect, the one upon the other. In the majority of chronic diseases, these conditions exist; especially do we find a marked increase in the number, of acid-units eliminated, per day, in tuberculosis, rheumatism, neurasthenia, and many other obscure and abnormal conditions associated with autointoxication.

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The vital process or combination of processes, variously described as change of tissue, tissue metamorphosis or *metabolism*, includes most of the mechanicochemical operations inherent in animal life: respiration, circulation, alimentation, nutrition, excretion; the mysterious association of function, by which substances of certain quality are taken into the body as food, digested by the ferments of the alimentary canal, assimilated and absorbed into the blood, given off again to support the structures of the body, and ultimately converted into heat, force, vitality, and *life*.

In every living organism there is simultaneously in progress a building up and a tearing down of tissue; a constant interchange of usedup for, fresh, utilizable material. A certain energy is expended in the process of excreting and getting rid of the effete products of combustion, which, having fulfilled their parts in nutrition, no longer are of use in the system. This process is *retrogressive metabolism.*

The loss so caused is compensated for by the intake and assimilation of new substances, which are so constantly devoted to the recuperation of the economy—this process is *progressive, or constructive metabolism.*

Any sluggishness or impairment of either or both of these great functions—whether they are the result of defect in some particular organ, or a general dyscrasia, such as malaria, scrofula, rheumatism, gout or specific infection—soon manifests itself in some form of ill-health.

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Aside from hereditary predisposition, gout and rheumatism start with a common pathogenesis: primarily, defective digestion and faulty assimilation, with consequent disorder of the nutrient process; and, subsequently, an excess of acid material in the blood. Hence, the earliest therapeutic indication is also in common—to provide alkaline carbonates in order to neutralize abnormal acidity. But, from this point their courses so diverge, therapeutically, as well as pathologically, that it has even been proposed to confirm *a posteriori* a distinctive diagnosis of the more prominent influence in the hybrid condition termed *rheumatic gout*, by testing separately the remedial power of their individual specifics—colchicine, alkalis, and the salicylates.

The more chronic forms of gout and rheumatism, however, resemble each other in many respects, notably in the benefit the victims derive from the use of the alkaline-saline waters and elimination through the skin by means of various baths.

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As the outcome of heredity or of injudicious feeding, or of both, an excess of uric acid and other acid waste products appear in the blood; which, according to the best but still obscure researches of biological chemistry, are, under certain conditions, liable to crystallize in the tissues, and thus give rise to severe inflammation, pyrexia, swelling of joints, and intense pain—the simplest expression of acute gout. The treatment consists in local sedation, warmth, colchicine, and antiphlogistics. Mineral waters, from the point of effective medication, have at this stage no definite utility, and, if unwisely administered, would probably aggravate the symptoms by their generally stimulating influence.

In the intervals between those attacks, on the other hand, when it is intended to improve the constitutional condition and correct the abnormal state of the blood, which is liable at any moment to renew acute mischief, we have, in the Mudlavia treatment, a treatment of direct and invaluable potency.

The successful accomplishment of the requisite chemical changes in the blood and the safe disposal of the resulting products are, however, by no means simple matters. When alkalis are brought into contact with uric acid, alkaline urates (of sodium, calcium, lithium, as the case may be) are the result; and these, if perfectly dissolved and sufficiently diluted, and not in excess of the eliminative capacity of the excretory organs, are thrown off without trouble; and the desired end is thus safely attained. When, however, a large quantity of alkaline salts are introduced into a system hypercharged with uric acid, and full provision for the solution and removal of the resultant urates is not at the same time assured, or when, by too rapid solution of deposits of uric acid—previously inactive in the tissues—an unwonted quantity is set free in the circulation, an acute attack of gout is not unlikely to be the consequence.

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This is the explanation of those unfortunate crises which occasionally occur during an apparently well-directed course of alkaline waters; and which are responsible for the impression, not uncommon among podagric wiseacres, that "it is better to leave the gout severely alone." So it is, until one has learned to handle the remedy.

But such attacks may be avoided and, yet, the constitutional condition corrected, by proceeding carefully with the eariler treatment, without unduly hastening the chemical changes; and further, by selecting waters which, by a suitable combination of alkalis and salines, not only accomplish the first indication of neutralizing excessive uric acid, but, in the same degree, provide for the dilution and elimination of the resulting urate compounds.

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An insuperable obstacle to summarizing a treatment of gout lies in the frequency and variety of associated ailments: some causative, others consequential. Dyspepsia, enlargement of the liver, spleen or pancreas, inactivity of the kidneys, torpidity of the intestines, general organic stasis or the condition described as abdominal plethora are all prominent contributing factors in the induction of gout. Fortunately, the same treatment indicated for uncomplicated, or "regular," gout is usually of a nature to be directly serviceable to each of these contributory conditions. There are also a number of minor ailments, such as skin diseases, catarrhs, and the like, which are directly the products of constitutional gout; and bearing upon them the stamp of the dyscrasia, are thus, independent of special characteristics, brought within the scope of such eliminative treatment as the Mudlavia treatment.

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Skin diseases figure prominently in the category of maladies curable by this treatment. These affections, in most instances, are but an expression of some morbid constitutional condition; and so, will be indirectly benefited by any treatment tending to promote nutrition. And so manifest is the influence of this treatment upon the function of the healthy skin, that it is impossible to doubt its alterative potency in the abnormal conditions of that important organ. It is difficult, however, to believe that the immediate application of lithia-impregnated mud can be advantageous to a surface already characterized by hyperirritability, but such is the case.

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The phenomena of arthritis deformans bear a marked resemblance to the trophic changes of tabes, and it is by no means improbable that sometimes they are due to the two states produced by autointoxication. The chronicity has so deranged the trophic mechanism that irritation changes result from the products of autointoxication. The influence of these factors can be shown experimentally by section of the sciatic nerve in rabbits and injection of irritating material above the median line of the body. As a result, the side upon which the sciatic nerve was severed is attacked by arthritic changes like those of arthritis deformans.

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The therapeutic management of acidemic autointoxication depends upon the type. In irritable weakness, while removal from familiar surroundings is desirable for permanent recovery, much may be attained by regulation of diet, administration of appropriate alkalis, including alkaline mineral waters, regular moderate exercise and massage, besides hydrotherapeutic measures.

(To be continued)

AMONG the BOOKS

BRILL: "PSYCHANALYSIS"

Psychanalysis: Its Theories and Practical Applications. By A. A. Brill, Ph. B., M. D., Chief of the Neurological Department of the Bronx Hospital and Dispensary; Clinical Assistant in Psychiatry and Neorology at Columbia University Medical School; Formerly Assistant Physician to the Clinic of Psychiatry at Zurich. Philadelphia and London: W. B. Saunders Company. 1913. Price $3.00.

Whether or not one accepts Freud's startling theories concerning the nature of the various neuroses and psychoses, he must admit that this distinguished psychiatrist has devised a method of diagnosis and treatment which is at least relatively logical. For the first time psychotherapy, so called, has been reduced to a system.

Brill has presented Freud's theories in an exceedingly attractive way. While he writes with all the enthusiasm and all the conviction of the disciple he has certainly done English readers a great service in presenting his master's ideas in a way easy of comprehension.

Reduced to its lowest terms, Freud's central idea is that the diseases usually diagnosed as neurasthenia, hysteria, psychasthenia, and the numerous borderland psychoses, are essentially due to emotional repression, almost always if not invariably sexual (using the word in its broadest sense) in type. Brill quotes Freud as saying: "In a normal vita sexualis no neurosis is possible." Inversely, therefore, every neurosis depends somehow upon an abnormal sexual life—or rather upon sexual repression, possibly dating back to the childhood of the individual and lost to conscious memory. To follow Freud and speak in symbols we may say, therefore, that neurosis or psychosis is due to a constipation of emotions, resulting in persisting mental autotoxemia—if we may use that word in this connection. It is quite appropriate, accordingly, to designate the treatment employed by the Freudists to relieve the repression as "catharsis," since it purges the psyche of the offending matter.

To uncover the cause of the neurosis Freud resorts to what he calls "psycanalysis." This is a practical diagnostic method and it has a practical therapeutic application. It is applied in various ways, but in none more interesting than in the interpretation of dreams. All dreams, it seems, have a sexual origin; they are not a senseless jumble; they always treat of the inmost thoughts of the dreamer; and each is found "to contain the fulfillment of a wish." The language of dreams is one of symbols. The Freudist seeks to understand and interpret these symbols, and through them to burrow into the subliminal and bring the repressed emotion to the surface of consciousness. When this can be done relief is possible. This is "catharsis."

The same methods are employed by Freud in the interpretation of the compulsion neuroses, and to a certain degree in the explanation of wit. Brill's chapter upon the latter topic is an exceedingly interesting one. So is his description of the technical side of psychanalysis; also his chapter upon the psychopathology of everyday life. Indeed the whole book is one that will hold the attention of the physician reader from beginning to end.

Freudism is already the center of a bitter fight among neurologists and psychiatrists. It may change the entire conception of nervous and mental diseases and their treatment, and it is therefore essential that physicians generally should understand it. We advise you to purchase this book.

"PROGRESSIVE MEDICINE"

Progressive Medicine: A quarterly digest of advances, discoveries and improvements in the medical and surgical sciences. Edited by Hobart Amory Hare, assisted by Leighton F. Appleman. March 1, 1913. Philadelphia: Lea & Febiger. Published quarterly at $6.00 per year.

The contents of this number include reviews on the surgery of the head, neck, and thorax; on infectious diseases, including acute rheumatism, croupous pneumonia, and influenza; on diseases of children; and on rhinology, laryngology, and otology. *Progressive Medicine* is an excellent digest of the literature and a desirable aid to the general practitioner who wants to keep up with the times.

ROSE: "NAPOLEON'S CAMPAIGN IN RUSSIA ANNO 1812"

In our October number we announced the forthcoming publication of Dr. Rose's medical history of Napoleon's campaign in Russia in the year 1812; now this book has made its appearance, being published by the author, at 173 Lexington Avenue, New York, and selling for $1.00.

The reviewer has always had a more or less distinct remembrance of the horrors of that great retreat, partly from his reading when a boy, partly from occasional references found in the literature, but he has never seen such a full description of the terrible hardships which the poor dupes of Napoleon's vanity and thirst for power were obliged to undergo on their return from Moscow. Dr. Rose's tale has an added interest to the physician, because it deals more particularly with the principal diseases that the surgeons of the grand army had to contend with, and because, also, it gives us an insight into the terrible conditions prevailing at that time in the field hospitals and in the sanitary service.

The book must be read to be appreciated. It is one of those volumes that are peculiarly adapted for the doctor's leisure reading, because they do not only entertain but instruct as well, while doing the latter in a manner that does not impose any excessive strain upon the mind.

"SURGERY, GYNECOLOGY AND OBSTETRICS"

The beautiful Chicago publication, *Surgery, Gynecology and Obstetrics*, has recently undertaken something new that promises to be one of the biggest things ever introduced in medical journals in this country.

Hereafter Dr. Martin will publish in his journal, as a supplement, what he calls an international abstract of surgery. This not only will consist of abstracts of everything worthy of record produced in the surgical field in this country, but also a strong working alliance has been made with the *Zentralblatt fuer die Gesammte Chirurgie und Ihre Grenzgebiete* and the *Zentralblatt fuer die Gesammte Gynaekologie und Geburtshilfe Sowie Deren Grenzgebiete*, in German, and the *Journal de Chirurgie*, in French. This will enable *Surgery, Gynecology and Obstetrics* to present every month an exhaustive encyclopediac record of everything that is being done in the surgical world.

For instance, in the February issue, which we have at hand, there are more than one hundred pages of this abstract matter. This additional material, while practically doubling the size of *Surgery, Gynecology and Obstetrics*, will be included in that journal without extra charge. This innovation will, it seems to us, render this publication absolutely indispensable to every physician who specializes in obstetric work, and most desirable to every physician who is at all interested in this rapidly progressing field.

"THE PRESCRIBER"

The Prescriber: A monthly journal dealing with therapeutics and treatment. Volume VII, April, 1913. Special double number, "Hormone-Therapy." Price one shilling and a half; bound and interleaved, two shillings, nine pence, postpaid. Published at 137 George St., Edinburg, Scotland.

We have repeatedly expressed our appreciation of this bright journal that is published in Scotland, and find our good opinoin fully confirmed by the makeup of the April number, which is devoted entirely, in reading pages as well as in its advertising pages, to the subject of hormone-therapy, which has come to the fore so much in recent years, and which bids fair to establish drug-treatment on a solid scientific foundation, not alone in regard to opotherapy, but also in regard to vegetable and mineral drugs, the action of which is elucidated in many instances by a close study of the hormones.

This hormone-number presents the principal information available on the subject as completely as it is possible to find it condensed into a small space. The editorials and original communications, which all deal with the same subject concisely and pithily, are supplemented by a large number of abstracts from current literature dealing with hormone-therapy in general, with the adrenal, the thyroid, and pituitary glands, the pancreas, the peristaltic hormone, and so on. In place of the department of book reviews, the principal publications that have appeared on the subject of hormone-therapy are mentioned, and these are followed by a bibliographic summary of the references to the hormones in recent medical literature.

We congratulate *The Prescriber* upon this splendid number, and cordially invite our readers to order this special little pamphlet, feeling sure that it will be of great value, especially in the bound volume, since additional notes can easily be made on the blank pages which are inserted between the printed pages.

Our subscription department will be glad to take orders for special numbers or for subscriptions for the journal.

"ENCYCLOPEDIA OF MEDICINE AND SURGERY"

The Practitioners' Encyclopedia of Medicine and Surgery, in All Their Branches. Edited by J. Keough Murphy, M. C. (Cantab.), F. R. C. S., surgeon to the Miller Hospital for South East London; senior assistant surgeon to Paddington Green Hospital for Children. London: Henry Frowde, Oxford University Press. 1912. Price $7.00.

This, in our opinion, is the most concise, comprehensive, and withal satisfactory attempt that has ever been made, and made successfully, to constitute in a single volume a practical encyclopedia of medicine and surgery, in all their aspects, so that the busy practitioner may here at once find reliable information, simply and clearly set forth, upon all subjects with which he may be called upon to deal in his daily work. For all parts of this work experts have been selected upon subjects within their own special provinces, and they have contributed articles conveying in the most definite and succinct manner the latest available information.

There will not be found, as a matter of course, any anatomical or pathological details, except where these are of practical application; nor any full description of surgical operations. These are outside the scope of general practice, and this book is designed to be a practitioner's encyclopedia—a book of ready reference. The contents are arranged under sections familiar to the practitioner, so that he will find it easy to refer to its pages for such help as he may need at the moment, while the index provides the fullest possible cross-references.

CABOT: "PHYSICAL DIAGNOSIS"

Physical Diagnosis. By Richard C. Cabot, M. D., assistant professor of medicine in Harvard University. Fifth edition, revised and enlarged. With 5 plates and 268 figures in the text. New York: William Wood & Co.

We have always regarded Dr. Cabot as the best exponent of the modern science and art of diagnosis in this country, and have considered his work on diagnosis as the best exposition of the subject offered in this country. After a perusal of this, the latest, edition, we see no reason to change our opinion.

The new edition has been brought thoroughly up to date. The most important additions are the sections on the phlebogram and the arteriogram, the recasting of the section on blood pressure and the arrythmias, as well as of those on neoplasms of the lung and pleura, on subphrenic abscess and peptic ulcer. Radiography also has come in for additional attention, especially in relation to gastric diagnosis by means of bismuth. The feature of Dr. Cabot's exposition which, above all others, commends it to our approval, and renders it peculiarly valuable for teaching purposes, is its broad, basic character. He deals with diagnostic principles rather than with catalogues disease-pictures; so that his book has a range of usefulness greatly transcending the limits of its own actual contents.

BERNAYS': "RULES OF SURGERY"

Golden Rules of Surgery. By Augustus Charles Bernays, A. M., M. D., M. R. C. S. Second edition, revised and rewritten by Wm. Thomas Coughlin, M. D., assistant professor of surgery at St. Louis University. St. Louis: The C. V. Mosby Company. 1913. Price $2.25.

This little book truly exemplifies the hackneyed *multum in parvo* description, and is full of the meat of common sense and practical helpfulness, delightfully seasoned and served. Of course, there are a great many changes and additions in this second issue of the volume, to meet our later altered and advanced viewpoint; but all that relates to the fundamental rules of surgery is retained from the first edition—amply sufficient to make us feel that we still have with us, in living, active presence, the compelling influence of that master-mind from which the book originally sprang.

Most of us are still willing, nay, eager, to learn at the feet of Augustus Charles Bernays. Indeed, in many respects the surgical world is just "catching up with Bernays," for he was, as most geniuses are, far ahead of his times. There is a book somewhere called "The Common Sense of the Sciences." That is a title which might well be paraphrased to fit this little manual of Bernays'. It represents essentially the common sense of surgery.

CONDENSED QUERIES ANSWERED

PLEASE NOTE

While the editors make replies to these queries as they are able, they are very far from wishing to monopolize the stage and would be pleased to hear from any reader who can furnish further and better information. Moreover, we would urge those seeking advice to report their results, whether good or bad. In all cases please give the number of the query when writing anything concerning it. Positively no attention paid to anonymous letters.

QUERIES

QUERY 5910.—"Alopecia." A. L. F. Washington, is treating two very bald heads of the worst type with every indication of perfect success. He was recently informed that the specific tincture of jaborandi, given in 15-drop-doses three or four times a day, was a promotor of the growth of hair on hairless heads, and he now concludes that the active principle (pilocarpine) would be even more effective, knowing that much of the jaborandi on the market is not reliable.

One of the active principles of jaborandi has long been recommended as an effective preparation in some forms of alopecia. Thorough elimination, perfect digestion, and stimulation of the skin of the scalp, massage, and application of local stimulants are the main underlying principles of any effective treatment of baldness.

The arsenates of iron, quinine and strychnine after meals prove an excellent tonic alterative; pilocarpine, with nux vomica and capsicum or strychnine hypophosphite may be given between meals. A very useful local application is quinine bisulphate, 30 grains; tincture of myrrh, 4 drams; tincture of cantharides, 1 dram; bay-rum, to make 4 ounces. The lotion should be rubbed thoroughly into the scalp at bedtime.

There is, of course, a vast difference between simple alopecia and loss of hair caused by some parasitic disease of the scalp. You will find carbenzol soap to be the best thing of this kind under such circumstances. The scalp should be washed thoroughly with it three or four evenings in succession, and then a 1:1000 solution of mercury bichloride brushed in. Continue until slight irritation is produced, then substitute the following lotion: vinegar of cantharides, 1-2 dram; mercury bichloride, 1 grain; spirit of camphor, 3 minims; water, 1 ounce. Apply carefully at bedtime.

QUERY 5911.—"Traumatic Monorchidism." J. A., New York, asks our opinion on a rather strange case. A young man, now seventeen years old, at the age of twelve fell on a fence and one testicle was driven into the body, and has remained there ever since. He never told anyone of this mishap until recently, when he asked our correspondent whether anything could be done for him as all sexual development had ceased more or less since the fall. He is embarrassed, for whenever he goes swimming with other boys they make fun of his condition.

We regret that you did not give us clearer clinical data. Try to locate the testicle, then describe more minutely the condition of the parts generally as found. But, doctor, are you sure that this boy's testicle really was "driven up into the body"? It strikes us that, if the boy struck the fence with force sufficient to drive the testicle high up into the inguinal canal, the services of a physician would have been requisite, and the organ would have been removed or brought down; were it crushed, removal would have been essential; whereas, if it merely was pushed up into the canal, it would have descended unless the inflammation set up resulted in fixation by adhesions or reduction of the caliber of the canal.

Is it not possible that the boy was a monorchid from birth? As you are aware, undescended or misplaced testicle occurs in one out of about five hundred males. There are four types: (1) where the organ is in the abdomen; in its original fetal position; (2) where it is at the internal ring; (3) where it is in the inguinal canal; (4) where it is situated outside of the external ring. A misplaced testicle may be situated either in (1) the perineum, (2) or in the thigh at about the locality of a femoral hernia, for which it may at times be mistaken.

Most of the textbooks dismiss the subject with but a very few words. It has been definitely proven, though, within the last few years, that by careful dissection misplaced testicles can practically always be drawn down and made to stay in the scrotum; Bevan's operation usually being selected for the purpose. Thitry-four operations mentioned by Keen were completely successful.

The dangers of retained testicle may be enumerated as follows: the possibility of hernia; tendency to serious lesions; epidymitis; atrophy; twisted cord; gangrene; direct injuries by external violence; probability of malignant disease; worry and consequent mental depression resulting from deformity.

The treatment for misplaced testicle, whether located in the perineum or in the thigh, is practically the same as for undescended ones. As already pointed out, a traumatism severe enough to "drive the testicle into the adjacent tissue" would be accompanied by laceration of the scrotum or the formation of a hematoma or hematocele, that is, effusion of blood into the tunica vaginalis. As under such circumstances it would be necessary to remove the blood clot, we can hardly believe that your patient actually sustained the injury he describes without having required medical attention; rather it is much more probable that the boy's testicle upon the affected side never completely descended, but the injury to the region served to call his attention to the abnormality.

QUERY 5912.—"Typhopneumonia; What Is It?" A. L. S., Oklahoma, wants us to tell him whether "there is such a condition as typhopneumonia," and he goes on to describe some recent experiences which lead him to answer in the affirmative. He says:

"I am having a series of pneumonia-cases, and the thing that puzzles me most is the continued high fever in each instance. I also am treating typical cases of pneumonia which terminate in seven to nine days. In the same family there is a history of the same conditions that prevailed in the typical cases, but the symptoms are masked and the temperature ranges from 103° to 105° F. continually. Sometimes I think my thermometers are wrong; but I have three, two for the mouth and one anal. These cases of high fever with delirium worry me considerably. I understand there is such a condition as typhopneumonia, but I take it to mean that the fever resembles that of typhoid fever. True, I have not made a Widal test, which presumably would set all my doubts at rest, but my treatment has proven very satisfactory so far as results are concerned. The point I want to get is this: do we have symbiosis in such conditions? In some infections, I know, symbiosis increases virulence, but is it so (if there is such a thing) in typhopneumonia?

"My treatment has been to clean out, clean up and keep clean, giving fractional doses of calomel, followed next morning by a saline laxative, then the intestinal antiseptic of the sulphocarbolates. For the distressing cough, I use codeine or heroin. Externally I employ guaiacol, applied to the chest and covered with cotton batting. For the nervousness and high fever, I give wet-packs and spongings. One of the most distressing symptoms in this condition is tympanites, and for this I order turpentine stupes, and oil of turpentine (3 or 4 drops on sugar) internally. For stimulation, I give strychnine, as much as 1-30 grain every four hours.

"My results are flattering; still, to be frank, I do not at all times see my way out, although by the aid of Providence and of kindly nature I have so far overcome all obstacles. I am a firm believer in the idea that pneumonia can be aborted if the right treatment is instituted early, but that, if you are late, it looks as though it becomes a case of self-limitation. If my treatment is not right or not rational, I want to know it."

Modern writers rarely speak of typhopneumonia or of typhoid pneumonia, as once was the practice. Of course, pneumonia may occur as a complication of typhoid fever, while, although much more rarely, typhoid infection sometimes manifests itself in a pneumonia patient. In that case, of course, the doctor would be dealing with a mixed infection, and it hardly needs to be pointed out that under such circumstances the condition of the patient is extremely serious. Still, the virulence of the toxins generated by the invading bacteria is not necessarily increased.

The preceding generation of clinicians employed the term "typhopneumonia" to describe a particularly serious adynamic type of the disease presenting typhoidic symptoms. Prostration, in this state, is extreme; there is delirium or stupor; the temperature may or may not be high, but the respiration and pulse are almost [illegible]; the skin is dry and shows a dusky tint, or it may be slightly jaundiced; the tongue is dry and brown (resembling that in the typhoid patient); splenic enlargement is perceptible; convalescence is tedious.

Eichhorst, in his "Practice of Medicine," says: "Constitutional infection of especial severity attends asthenic pneumonia, which has also been designated typhoid, putrid or malignant pneumonia. The patients attract attention from the outset, on account of the marked presence of delirium, sordes of the lips and gums, distention of abdomen, enlarged spleen, diarrhea—symptoms suggestive of the clinical picture of typhoid. The bacillus typhosus is not discovered, and practically in all instances the Widal reaction is negative. Such protracted and erratic forms of pneumonia must be looked upon as instances of severe local infection."

Pneumonia as a complication of typhoid fever is rare.

It might be well, doctor, to make a Widal test in some of your atypical cases. Occasionally, as you know, in imperfectly treated cases fever persists for from four to six weeks, terminating with gradual defervescence. Not infrequently septic manifestations are observed. You seem to be in the midst of an epidemic, and it is generally acknowledged that the asthenic variety (socalled "typhopneumonia") ordinarily predominates under such circumstances. The mortality frequently is high.

You need not doubt your thermometers. However, we would urge you to push, in all such cases, calx iodata, calcium sulphide, and nuclein, in massive doses, eliminating freely, and maintaining therapeutic cleanliness of the intestine with the combined sulphocarbolates in doses of 20 to 30 grains every three hours. Candler's article on the treatment of pneumonia, in the January issue of CLINICAL MEDICINE, may interest you particularly under the present circumstances.

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QUERY 5913.—"Popping of Joints." D. S. B., Alabama, tells about a young woman (age. 22; spare-made, in general good health) who experiences a peculiar popping sound in the joints of her right jaw when she opens her mouth and in the joints of her right knee and shoulder and elbow when she moves them. The trouble does not pain her, but it is disagreeable. One can hear the "pop" across the room as if two bones were rubbing against each other. The Doctor wants an explanation and [illegible]ns.

To our knowledge, the peculiar "popping" of the joints here described has never been satisfactorily explained, and the literature at our disposal does not refer to the subject. Presumably the lack of synovial fluid would cause more or less stiffness of the joints, with, possibly, resulting friction-sound. "Popping" is due, probably, to a sudden tightening of relaxed muscles, the joint going back into place under tension.

We are all familiar with the phenomenon of "cracking jaw," and, of course, we all—or most of us—can "pop" our fingers. It is probable that practically the same conditions exists in the joints of your patients, i. e., abnormal relaxation and sudden (spasmodic) tension.

It is altogether likely that exercise of the affected joints, and constant massage with some oleaginous substance (lanolin and coconut-oil, equal parts, for example) would prove beneficial.

As to the pop which can be heard across the room, "as if two bones were rubbing against each other," that sound must be differentiated from "popping." As already pointed out, the lack of synovial fluid, i. e., roughness and friction in the joints, might—probably would in certain spare individuals—produce just such a sound.

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QUERY 5914.—"Parenchymatous Nephritis." I. H. E., Kentucky, has a patient who has been sick for quite a long while. Sometime ago her heart beat as high as 180 per minute. She was very dropsical. Now her heart has compensated, until now it beats only 70 per minute. She still is somewhat ascetic. Her appetite is good, digestion good, she rests well, has no pain, no cough, no difficulty in breathing. The amount of urine (of which a specimen is forwarded) in twenty-four hours is 24 ounces.

This patient suffers from parenchymatous nephritis. Alkaline decomposition has occurred in the sample of urine mailed—please remember that it is well always to add to it a preservative, such as a little chloroform.

The pathological conditions present in the individual may vary materially from day to day. In chronic diffuse parenchymatous nephritis the usual indications are to keep up the patient's strength by improving the quality of the blood and getting rid of the accumulated body waste; while rest in bed, even if not continuous, is of importance in reducing edema.

The patient should be carefully fed, skim milk being the ideal food here. Under its use the most dangerous symptoms frequently abate. She should consume 2 to 3 quarts of milk per day, taking 6 to 8 ounces every two hours, "chewing," so to say, each mouthful thoroughly. It is advantageous to dilute the milk with Vichy or Seltzer. Buttermilk is also highly recommended. She should wear woolen underclothing, one set during the day and a change at night.

The combination of arsenates of iron, quinine and strychnine with nuclein is essential, two of the standard granules being given after each meal. Usually we add arbutin, boldine, and irisoid, giving full doses before the two principal meals of the day.

The dropsy may be controlled by means of hot baths, laxative salines, and apocynin. The latter may be given for one or two days every week or ten days; i. e., one standard tablet every two hours until free watery stools are secured, the effect being maintained with two tablets every three hours. Blue mass and soda or calomel and podophyllin may be exhibited every third night, and a laxative saline the next morning. Salt sponge-baths are beneficial. In addition, enemata of decinormal saline solution are invariably ordered by this writer. It is well to withdraw sodium chloride from the diet entirely. Cactoid sustains the heart and also acts as a diuretic. With a personal knowledge of actual conditions one can modify this basal treatment satisfactorily.

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QUERY 5915.—"Nodules in the Breast." F. C. S., Illinois, asks what medicinal procedures we would suggest for lumps in the breasts?

The exact character of the "lumps in the breasts" must, of course, be ascertained. If you will give us a clear idea of their character, location, length of time they have been observed, etc., we may be able to make some definite therapeutic suggestions. Are the indurations freely movable or is the overlying skin adherent? What is the general condition of the patient? Has she borne children? They are important factors to know.

Phytolaccoid and irisoid are, perhaps, the most useful and generally indicated remedies, with calx iodata or arsenic iodide as alternates.

As you are aware, different kinds of new-growths are to be found in the breast—some of them benign, some of them doubtful, some of them truly malignant. Fibroma is common, but it is not always easy to differentiate in the early stages from sarcoma; indeed, fibromata, myomata, and sarcomata are closely allied.

Periductal fibromata of the breast are encapsulated tumors, which may vary in size from a bean to a coconut, and most commonly found in women between twenty and thirty. They are painless, grow slowly, and are usually found in the upper outer quadrant of the breast.

Myxomata differ little in structure from fibromata, but are apt to be larger, are observed more frequently in women of middle age, and frequently contain cavities.

Sarcomata (periductal) are most common in women of over forty years who have borne children. The tumors become hard and large, involving the whole breast; they ulcerate, and the overlying skin is reddened and traversed by dilated veins.

Fibrocystadenomata are found in young single women, usually. They are lobular, quite hard and movable, varying in size from that of a walnut to an orange. They grow slowly and cause no pain.

Retention-cysts, tuberculous nodules or mastitis may cause the appearance of "hard lumps."

It must not be forgotten that the first sign of cancer is frequently a painless lump, usually located near the nipple, but occasionally lying high up toward the acilla. Deeply seated small cancers are fixed, cannot be moved. As the disease advances, the skin becomes adherent and pitted, frequently the nipple retracts, and about this time ulceration is apt to occur, and enlarged nodes in the axilla become apparent.

It is essential that malignant growths of the breast be recognized early. The only effective treatment is radical extirpation.

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QUERY 5916.—"Dermatitis Herpetiformis Termination of Pregnancy." K. A. R., Wisconsin, is treating an anemic boy of eight who has a skin eruption which he has diagnosed as dermatitis herpetiformis. The boy has been thus affected since he was two years old. It is worse during summer. Lesions are first vesicular then they generally become papular and finally pustular; they come out in crops of two, three or more, begin in the corium of the skin, are of pinhead size. The parts affected are the hands, arms, legs and feet, also to some extent, the neck and face. There is very little itching. He sleeps well, has a good appetite, bowels are regular. Family history is negative. Urine: no sugar, no albumen, specific gravity 1014, 24-hour output about 40 ounces; reaction, amphoteric; acidity, 25°; no indican.

Treatment so far has been: Internally, Fowler's solution, 1 to 7 drops three times a day after meals; syrup of iodide of iron, 5 drops every three hours; sulphur laxative two to six granules a day. Externally:

Alkaline baths once a day; next, after removing crusts and opening vesicles, rubbing in of sulphur ointment (a dram to the ounce). After two weeks there is no change for better or worse.

The Doctor asks: "Would calcium sulphide and echinacea be of greater value internally, and how would lead-water do for external use? I have treated boils with lead-water with good results."

He writes further: "I am also treating a woman who has asthma and tuberculosis, and she is now two weeks overdue in regard to her menses. She thinks she is pregnant. The doctor who attended her at her last confinement told her she could not be able to go through a pregnancy again. At what time is it best and safest to terminate pregnancy and what method is best, safest, and most used? Is there any drug or combination of drugs that are used or can safely be used? Would you advise consultation in such cases?"

We think it would be well to have a specimen of blood from the 8-year-old boy examined by our pathologist. If your diagnosis is correct, you have a troublesome condition to deal with, but itching is usually a constant and most troublesome feature. Pigmentation is sooner or later noted in practically every case.

As you are aware, the vesicles and pustules, especially vesicles and blebs, are somewhat peculiarly shaped; most of them being strikingly irregular, oblong, stellate, quadrate, semilunar, or more rarely, ring-shaped. When drying, they have a puckered appearance. They usually disappear by absorption, unless ruptured extensively; under such circumstances, the lesions secrete for a short time and then dry up; and when the crusts fall off the site is decidedly erythematous and decolorized, this gradually fading away or leaving a slight pigmentation.

Dermatitis herpetiformis is usually seen in young adults, though two cases have been reported in children of thirteen and fourteen years. Nothing of any import in the prior or present condition of the patient's health would explain the eruption; as a matter of fact, in most instances the general health seems to be undisturbed.

Most dermatologists consider the disease as essentially neurotic. Roussel reports a case in which phimosis apparently was the prime cause, prompt cure resulting after circumcision. Renal disease has been recorded as an etiologic factor, and various observers claim that there is invariably an insufficient elimination of urea and uric acid.

In the writer's opinion, the maintenance of intestinal cleanliness and the exhibition of irisoid and echinacoid in alternation with arsenic sulphide proves the most effective medication in these cases. We should be inclined to give also small doses of calomel, and irisoid, half-hourly for three or four doses, every third night, and a saline laxative draught the next morning. Boldine may be advantageously added if the output of urea is insufficient. Arsenic sulphide should be given after the two principal meals of the day.

The skin may be sponged daily with carbolized epsom-salt solution and the lesion dusted with stearate of zinc. Thuja is an excellent application and may be applied to ruptured vesicles on gauze. Dusting powder may be used subsequently. You might try this treatment, which has proven very useful in the writer's hands, and report results. A very careful examination of blood and urine should be made; also examine the genito-urinary organs.

We regret to say that we cannot discuss the second subject of your letter. We have made this a fixed rule, and we are quite sure that you yourself will agree that it is advisable for us to adhere strictly to it. On no account attempt to terminate pregnancy without calling in a consultant. Bear in mind, quite frequently the birth of the child proves beneficial instead of proving disastrous in such cases. Accepted methods of terminating pregnancy are described in all modern textbooks on obstetrics.

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QUERY 5917.—"Diagnosis of Variola." A. B. N., Texas, requests an answer to the following questions relative to the diagnosis of smallpox: "(1) Are there any positive signs or indications to discriminate early the discrete form (accurately, positively) from chicken-pox of an aggravated form or complicated with scrofula; where you have, as in smallpox, first the macules, then vesicles and pustules with umbilication? (2) Does the discrete form protect, or immunize, a person from the confluent, or malignant, form of smallpox? (3) Is it a fact that smallpox is the only disease that presents vesicles upon the palmar surface of the hands and the sole of the feet; and would it be proper to make a diagnosis upon this one point?"

The prodromes of variola and varicella differ materially, although we must remember that a very mild form of variola has been prevalent throughout the country, many physicians, diagnosing "Cuban itch" or "varioloid" eruptions, failing to quarantine.

In varicella, prodromata may be entirely absent, and usually are, although careful inquiry may develop the fact that the child has been constipated, peevish, and inclined to refuse food. Slight headache or malaise, initial chill, and moderate rise in temperature may usher in the eruption; but in the majority of instances the appearance of the typical spots may be the first thing to attract attention. Bear in mind that these spots nearly always appear upon the trunk, being scattered over the chest, abdomen, and back.

The period of incubation is two weeks. The eruption has been known to appear as early as ten days after exposure, while, also, it has been delayed as long as twenty-one days.

At first the papule is small, very slightly elevated and surrounded by an erythematous ring. During the second day it becomes vesicular, each lesion resembling a minute cantharidal blister upon a pimple-base. In forty-eight hours the vesicle sinks and presents a typical umbilicated pock. In another day or two this dries and the crust separates, leaving a white area beneath. Meanwhile other papules have appeared, and so it is possible to find a patient exhibiting at once papules, full vesicles, the umbilicated variety, and dry crusts, and even white spots showing recent separation of the scab. On the face and other exposed areas, vesicles may become infected and pustules result. These heal slowly and leave a typical white depression which closely resembles the "pit" of variola.

Bear in mind that the diagnosis usually rests upon the absence of systemic disturbances, the successive crops of papules, the course of the lesion, and the fact (generally), that the face escapes and the hands and feet are but very rarely affected.

In variola, six to ten days after exposure the patient has chill (or convulsion), followed by high fever and intense pain in head and back. A papular eruption appears on the second day. Vomiting is common. In children, the papular eruption may appear on the buccal and pharyngeal mucosa on the second day.

Ordinarily the temperature at the end of twenty-four hours is 103° to 104° F.; the eruption appearing on the third day or fourth day, when the temperature invariably falls to 100° or 101° F. The eruption appears first upon the forehead and lips, and gradually spreads over the body. The scalp usually escapes; but the hands also may be spared. The eruption becomes papular on the fifth day, and in the rare cases where the temperature has not fallen early it does now; the patient usually feeling comparatively well. Twenty-four to thirty-six hours later the papules become vesicular; umbilication follows rapidly, and pustules are present generally on the eighth day. On the ninth, each pustule is surrounded by an areola, there is swelling of the features, and a stench, which sometimes is intolerable, fills the room. The purulent contents of the pustules oozes forth on the tenth, eleventh or twelfth day. A scab, or crust, now forms, which, if untouched, separates about the fifteenth or sixteenth day, leaving a red, glazed surface, this later becoming a white depressed cicatrix.

However, in these modern days, "pitting" is entirely prevented by the puncture of each vesical as it appears, the removal of its contents, touching of the cavity with pure carbolic acid, and neutralizing the latter with alcohol. Moreover, if the patient is kept saturated with calcium sulphide, and the body freely smeared with carbenzol, antiseptoil or similar antiseptic unguent, the course of the disease is materially modified.

Under the circumstances, we beg to refer you to the chapters on the treatment of variola and varicella in "Everyday Diseases of Children." Let us suggest also that you write the Secretary of the State Board of Health, Springfield, Ill., and ask him to send you pamphlets descriptive of variola as it has appeared in Illinois in recent years.

Variola is variola, and, while we are aware that a patient may contract this disease twice or even three times, such protection as one attack may afford follows the discrete as well as the confluent form. It must be remembered also that individuals have contracted smallpox for the second or even the third time, despite the fact that they had been effectively vaccinated; moreover, the period of immunity varies materially. Experimentation has shown that a certain number of individuals may be successfully vaccinated every two or three years, and instances have been reported where men have contracted smallpox three years after a first attack of the disease, and six months after having been "successfully" vaccinated. It is true, such things rarely do occur; still, we must admit that the susceptibility of individuals varies greatly.

Vesicles rarely appear upon the palmar and plantar surfaces; the covering is naturally thick and tough, and, so, owing to this fact, undermining is a frequent result. There is little or no tendency to umbilication. A vesicular eruption, however, may appear in many other skin diseases.

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